
HD Digital Recorder

User's Manual

iHDR-5200C

The default password is 0000.



HUMAX

Thank you for purchasing a HUMAX product. Please read this user's manual carefully to be able to safely install, use and maintain the product at maximum performance. Keep this user's manual next to your product for future reference. The information in this user's manual is subject to change without notice.

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Warranty

The warranty does not cover parts which may become defective due to misuse of the information contained in this manual.

Meaning of Symbols



To reduce the risk of electric shock, do not remove cover (or back). No user serviceable parts inside. Refer servicing to qualified service personnel.



This symbol indicates dangerous voltage inside the product that presents a risk of electric shock or personal injury.



This symbol indicates important instructions accompanying the product.

Warnings, Cautions and Notes

Throughout the whole manual, pay special attention to the following marks that indicate hazardous situations.

Warning

Indicates a hazardous situation which could result in serious injury.

Caution

Indicates a situation which could damage the equipment or other apparatus.

Note

Indicates additional information to make the user aware of possible problems and information of any importance to help understand, use and maintain the installation.

Notice

'WEEE' Instructions



This product should not be disposed with other household wastes at the end of its working life. Please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. This will prevent possible harm to the environment or human health from uncontrolled waste disposal.

Domestic users:

Please contact either the retailer where you purchased this product or their local government office for details of where and how they can take this item for environmentally safe recycling.

Business users:

Contact your supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

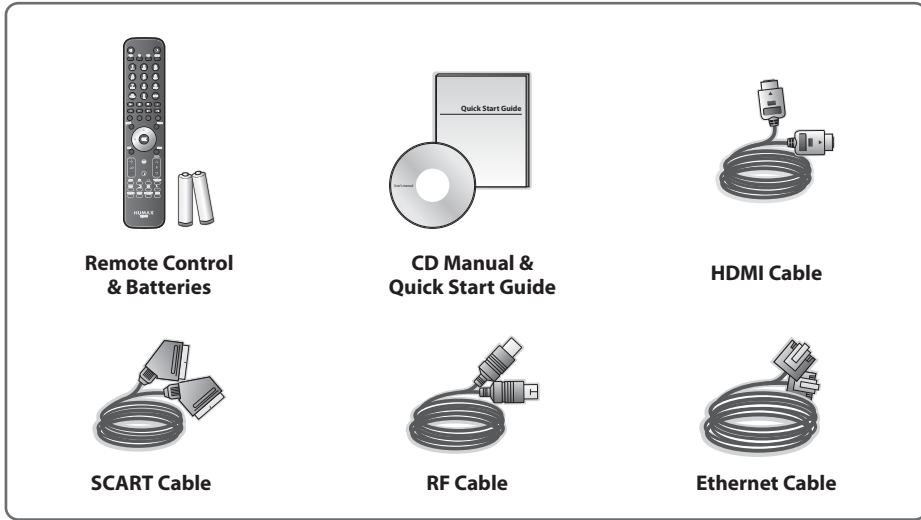
Trademarks

- Irdeto is a trademark of Irdeto Access B.V.
- Manufactured under license from Dolby Laboratories.
Dolby and the double-D symbol are trademarks of Dolby Laboratories.
- HDMI, the HDMI Logo, and High-Definition Multimedia interface are trademarks and registered trademarks of HDMI Licensing LLC.

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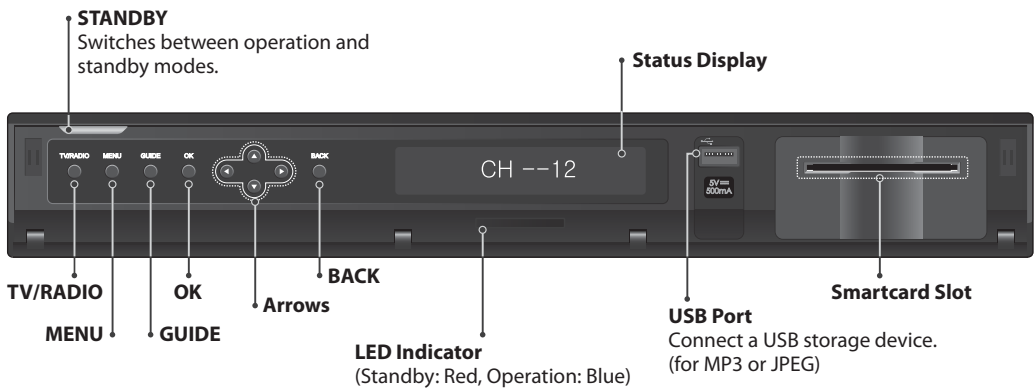
1. Checking Accessories



Note: The accessories may vary according to area.

2. Product Overview

Front Panel



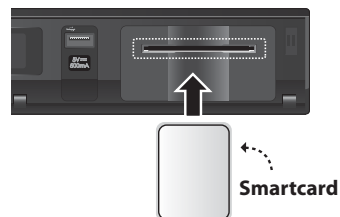
Note: The image shown may differ from the actual product.

Quick Start Guide

English

Inserting the Smartcard

1. Open the flap on the front panel to expose the card slot.
2. Hold Smartcard horizontally with the electronic chip facing downwards.
3. Insert the Smartcard into the slot.



Rear Panel

CABLE IN

Connect an antenna cable.

CABLE OUT

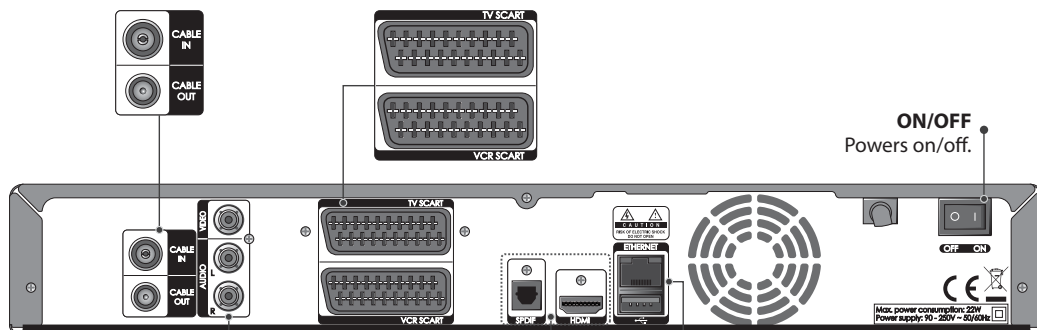
Connect to the TV or VCR using an antenna cable.

TV SCART

Connect to the TV using a SCART cable.

VCR SCART

Connect to the VCR or DVD using a SCART cable.



VIDEO

Connect to the TV or VCR using an RCA cable(CVBS).

AUDIO

Connect to the TV or VCR using an RCA cable(Stereo).

SPDIF (Optional)

Connect to the audio system using an S/PDIF cable. (Dolby Digital)

HDMI

Connect to the TV using an HDMI cable.

ETHERNET

Network port (for future use)

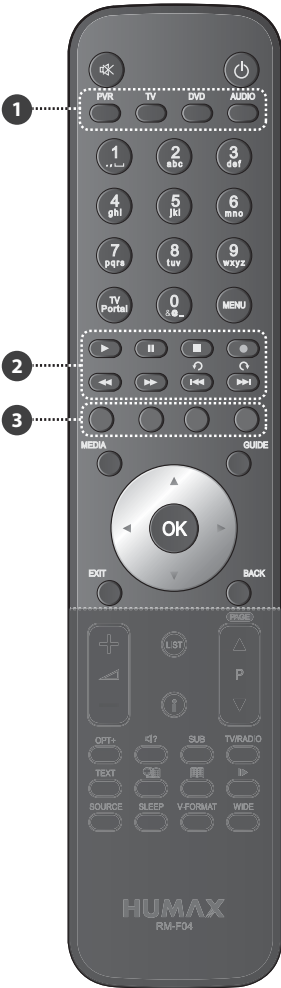
USB Port



Connect a USB storage device.

Note: The image shown may differ from the actual product.

Quick Start Guide

Remote Control



	MUTE	Mutes audio.
	STANDBY	Switches between operation and standby modes.
1	MODE	Changes the mode of remote.
	NUMERIC	(0-9)
	TV Portal	Not available for this product.
	MENU	Displays the main menu.
2	Playback Control Buttons	▶ Play, Pause, ■ Stop, ● Record, ◀◀ Rewind, ▶▶ Fast Forward, ◀◀ Previous, ▶▶ Next, ◌ Instant Replay, ◌ Skip
3	COLOUR Buttons	Colour keys for interactive applications.
	MEDIA	Displays the media list.
	GUIDE	Displays the programme guide.
	ARROW Buttons	Moves the cursor up, down, left or right.
	OK	Selects (Enters) a menu or confirms a selection.
	EXIT	Exits all On-Screen Display (OSD) screens.
	BACK	Returns to the previous channel. Goes back to the previous screen.

Note:

- To control the product please make sure that the PVR mode is selected on the remote control.
- The image shown may differ from the actual product.
- Some playback control buttons may not function depending on the contents.

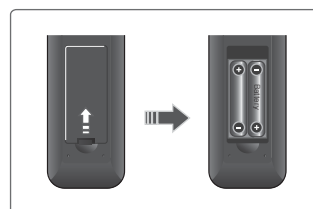


- ▲+/-** Adjusts the audio volume.
- P▲/▼** Changes the channel or page.
- LIST** Displays the channel list.
- i (Information)** Displays the channel and programme information.
- OPT+** Displays the channels attributes.
- 🔊 AUDIO** Displays the audio list.
- SUBTITLE** Displays the subtitle language list.
- TV/RADIO** Switches between TV and radio modes.
- TEXT** Enters the digital text service.
- SOURCE** Switches between the input sources from SCART.
- SLEEP** Sets the sleep timer.
- V-FORMAT** Sets the resolution of video.
- WIDE** Sets the display format.

4 Playback Control Buttons 📌 Add Bookmark, 📖 Bookmark List, ▶ Slow

Inserting Batteries

1. Press the hook upward and lift the battery cover off.
2. Insert the batteries (supplied) matching the plus(+) and minus(-) at each end.
3. Close the cover.

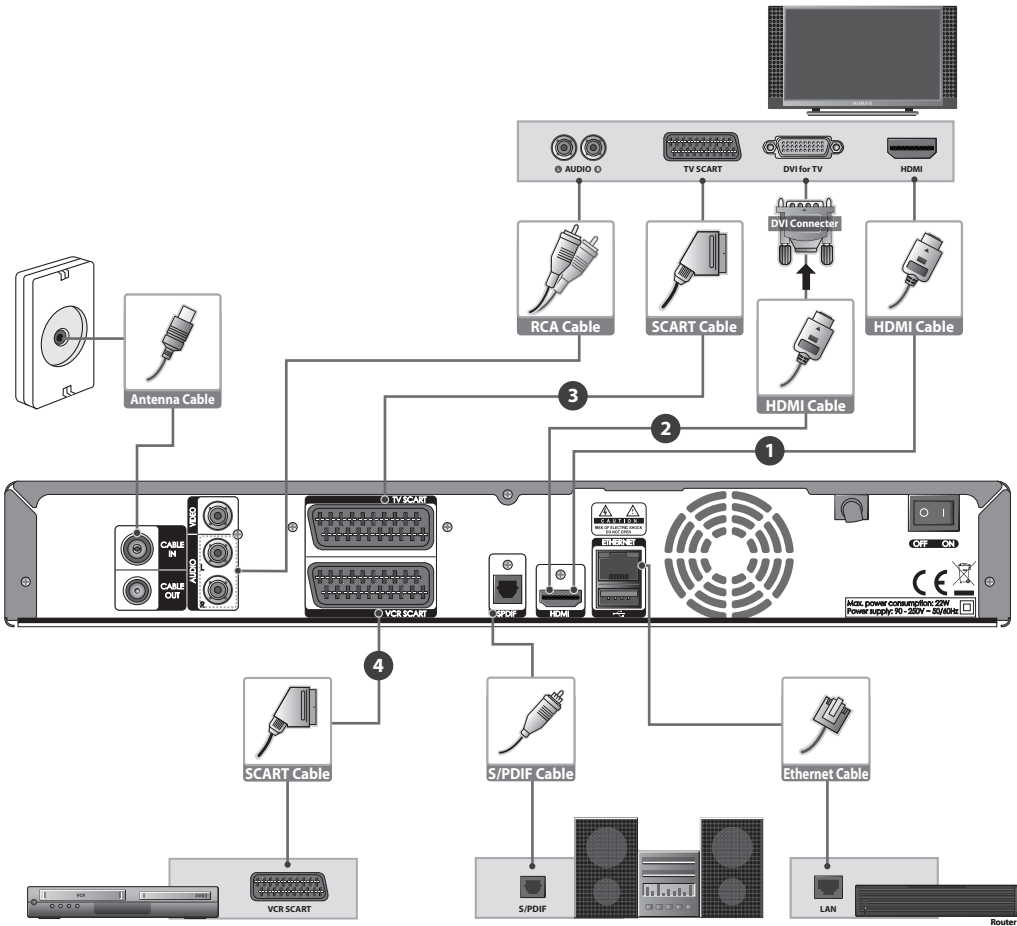


Quick Start Guide

3. Connections

This section describes how to connect your product to match your particular devices setup and to gain optimum signal quality. The product provides various interfaces to connect to the TV, VCR or other devices. Select the most appropriate procedure depending on the device you have.

Note: If you encounter any problems setting up your product, please contact your local retailer or HUMAX Customer Helpline.



Connecting the Cable TV Line

Connect an antenna cable from your cable TV network to CABLE IN connector.

Connecting the TV and VCR

You can select one of the following connections depending on the equipment you have.

❶ TV with the HDMI connector;

For the best picture quality, connect the product and TV using an HDMI cable.

❷ TV with the DVI connector;

For very good picture quality, connect the product and TV using an HDMI cable and an HDMI-to-DVI converter for video and an RCA cable (Audio L/R) for audio.

❸ TV with the SCART connector;

For good picture quality, connect the product and TV using a SCART cable. (TV SCART)

❹ VCR with the SCART connector;

To output video and audio, connect the product and VCR using a SCART cable. (VCR SCART)

Note:

- When using the digital audio system, connect the product and the digital audio system using an S/PDIF cable for audio.
- Programmes restricted by DRM (Digital Rights Management) may not be viewed via the HDMI cable. Connect using the SCART or composite cable.
- Connecting your TV directly to the audio/video output of the product will assure a more vivid picture and enhance your viewing enjoyment.

Quick Start Guide

Connecting the Network

❶ Connecting to the LAN;

Connect one end of the Ethernet cable to the product and the other end to the LAN router.

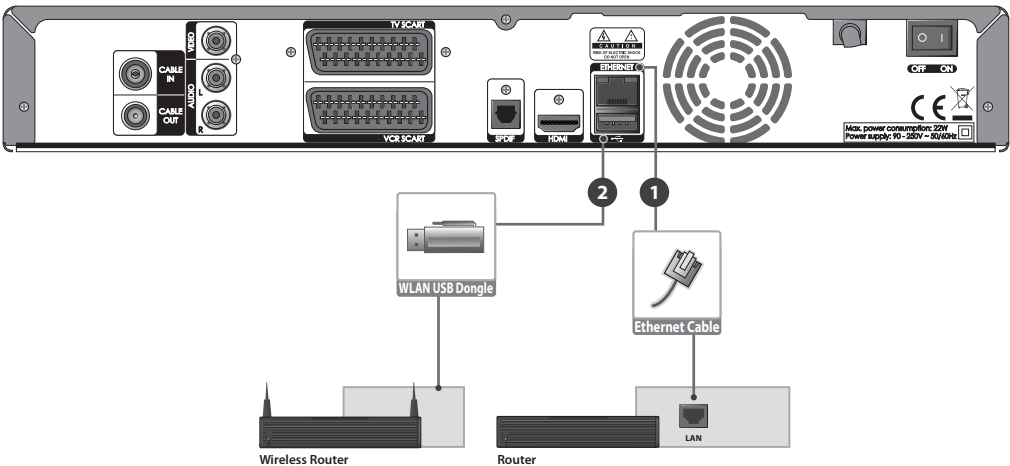
❷ Connecting to the Wi-Fi (Wireless LAN); (Reserved for future use.)

You can connect the network via the Wi-Fi access point or DSL/cable modem.

1. Plug in the wireless USB dongle to the USB port. (Separate purchase required)
2. Set the options for the Wi-Fi.
 - **Network Name (SSID):** Select the network name of your Wi-Fi access point from the list.
 - **Security Type (WEP):** This product supports WEP 40/128bit ASCII and WEP 40/128bit HEX. The security type of the Wi-Fi and the product shall be set the same.
 - **Password:** When using the security type, you must set the password. Enter the same password in the Wi-Fi setting menu.
3. After completing the Wi-Fi access point setting, make sure the settings in **Installation Wizard** or **Settings>System>Network>Configure Wi-Fi** are the same.

Note:

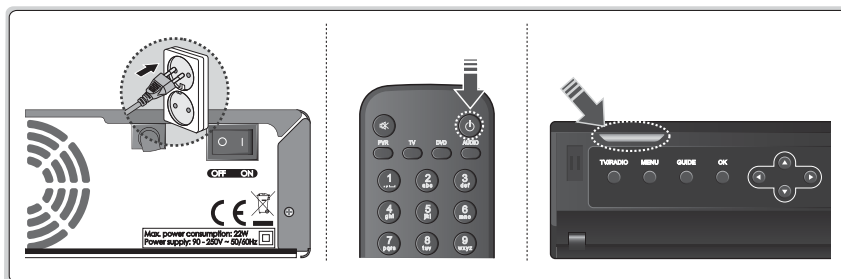
- Make sure the distance between the Wi-Fi access point and the product is not too far away. This may lower the quality of service.
- It is recommended to purchase a wireless USB dongle distributed by HUMAX. Other products may not function or respond. Visit the HUMAX website to find the information on purchasing a wireless USB dongle. (<http://www.myhumax.nl>)



Note: We recommend the network connection over a direct LAN.

4. Powering On

1. Connect the power cord of the product to a wall outlet.
2. Ensure the **ON/OFF** switch at the rear of the product is switched to **ON**.
3. Power on by pressing the **STANDBY** button on the remote control or the **STANDBY** button at the front of the product.



Note: To control the product please make sure that the PVR mode is selected on the remote control.

Quick Start Guide

5. First Installation Wizard

When powering on your product for the first time after purchase or performing the factory default in menu, the installation wizard will operate automatically.

Note: If you exit the installation wizard without fully completing the channel searching procedure, you may not have all of the channels available. In this case, you can use the **Settings > Installation** menu to search for more channels.

1. Language

Select your language.



2. Display

Set the video output for your TV.



3. Search Channels

Select new channel.



Save the found channels when the search is complete.

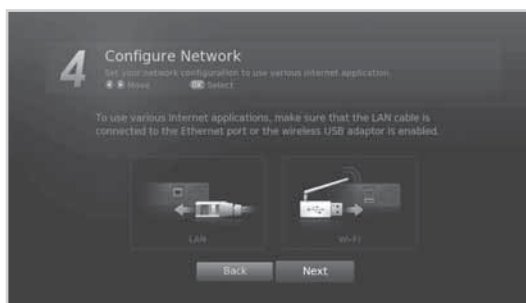


4. Configure Network

Make sure that the LAN cable is connected to the Ethernet port or the wireless USB dongle is enabled.

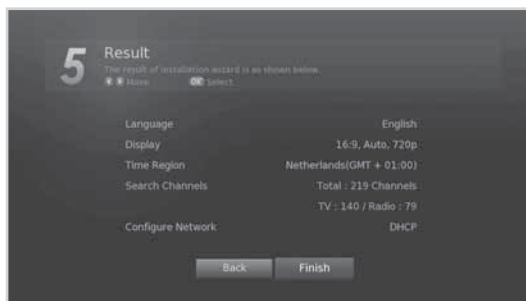
Configure the network setting.

Note: The Wi-Fi network is currently not supported. (Reserved for future use.)



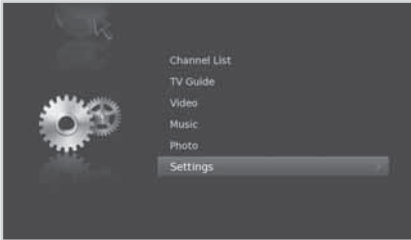
5. Result







The result of the Installation Wizard is shown. Select **Finish** to exit the wizard.



Quick Start Guide

6. Menu Overview



	Channel List
	TV Guide
	Video
	Music
	Photo
	Settings

Preferences

- Parental Control
- Language
- Time
- Video
- Audio
- Recording
- Screen Display

Edit Channels

- Edit Favourite List
- Edit Channel List
- Favourite Ch Numbering
- Hide Recent List

Installation

- Channel Search
- IRDETO Software Update
- Factory Default

System

- System Information
- Signal Detection
- Power Management
- Conditional Access
- Mail Messages
- Data Storage
- Network

How to Navigate



Displays the main menu



Selects (Enters) a menu or confirms a selection



Goes back to the previous screen



Exits all On-Screen Display (OSD) screens



Moves among menus or options



Changes or adjusts the option



Enters the number (0~9)

Changing Channels

You can change the channels in several ways.

- ❖ Press the **P▲/▼** button.
- ❖ Enter the channel number directly. **(0-9)**
- ❖ Go to the channel list or TV guide and select a channel.

Note:

- Press the **TV/RADIO** button to switch between TV and radio channels.
- Press the **BACK** button to return to the previous channel.

Volume / Mute / Audio

- ❖ To adjust the audio volume, press the **▲+/-** button.
- ❖ To mute the audio temporarily, press the **MUTE** button.

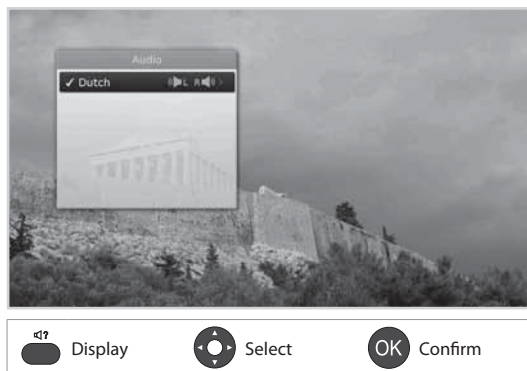
Setting Audio Options

Audio options are available only when the programme supports multiple audio languages.

1. Press the **AUDIO** button.
2. Select the audio language.
3. Select the audio direction.
4. Press the **OK** button.

Note:

- The mute function remains set while you change channels.
- You cannot set the audio direction when the programme is broadcast in Dolby Digital.



Basic Operation

Display Format / Resolution

Setting Display Format

Press the **WIDE** button to set the display format according to the screen ratio.
Each time you press this button, the value changes.

- Screen ratio 4:3: **Auto** – **Letterbox 16:9** – **Letterbox 14:9** – **Centre**
- Screen ratio 16:9: **Auto** – **Full** – **Zoom**

Note: Refer to **Setting Display Format** for details.

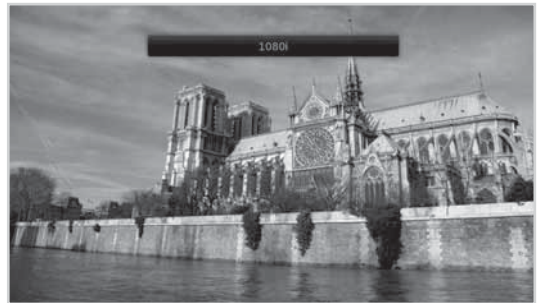


Setting Resolution

Press the **V-FORMAT** button to set the resolution of the screen.
Each time you press this button, the value changes.

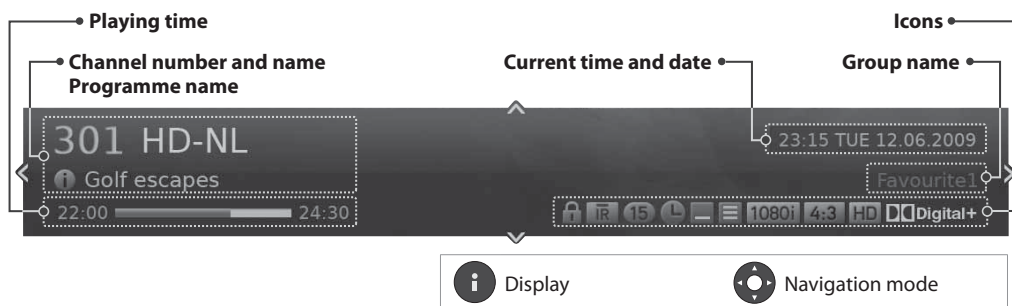
- **576i - 576p - 720p - 1080i - Original**

Note: When connected with an HDMI cable, you can only change to resolutions the TV supports.



Programme Information (i-plate)

The i-plate is an information banner that is displayed for a certain period of time whenever you change channels. Press the **i** button while watching a programme to display the i-plate. Press the **EXIT** button to hide.



- **Viewing detailed programme information**
Press the **i** button again while the i-plate is displayed.
- **Viewing previous/next programme information**
Press the **◀/▶** button while the i-plate is displayed. Press the **OK** button to set reminders or recordings for future programmes.
- **Viewing programme information of other channels**
Press the **▲/▼** button while the i-plate is displayed. Press the **OK** button to change to the selected channel.

Icons

The icons represent the information and services provided.

	Locked programme		Subtitle
	Scrambled programme (CAS icons)		Teletext
	Parental level (minimum age for viewing)		Multiaudio
	HD programme		Resolution
	Scheduled programme (Red: Record, Blue: Reminder)		Dolby Digital audio
	Screen ratio		Dolby Digital Plus audio

Note: Programme information is not displayed when there is no programme information.

Basic Operation

Sleep Timer

Press the **SLEEP** button to set the automatic turn off time.

Each time you press this button, the value changes.

- 10 - 20 - 30 - 60 - 90 - 120 minutes



SLEEP Display

Subtitle

You can select the subtitle language when subtitle information is provided.

1. Press the **SUBTITLE** button.
2. Select the subtitle language.
3. Select **Off** to make the subtitle disappear.
4. Press the **OK** button.

Note: You can choose to always display the subtitle when available.



SUB Display

Select

OK Confirm

Option

You can set the options for the watching channel.

1. Press the **OPT+** button.
2. Select an option.
 - **Favourite:** Select the favourite group to add the channel.
 - **Lock:** Select **On** or **Off**.
3. Select **OK** to save and exit.

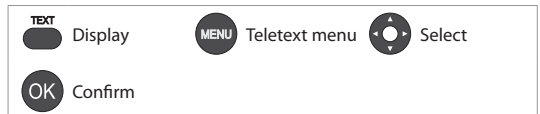


Teletext

Teletext is a free service broadcast which gives the latest information on news, weather and many other topics. You can use interactive services in teletext mode.

All teletext supporting channels have the teletext icon on the i-plate.

1. Press the **TEXT** button.
2. To display the teletext menu, press the **MENU** button in teletext mode.
3. Select the teletext function you want and press the **OK** button.



Channel List

The channel list will help you find the channel you want to watch quickly and easily.

You can access the channel list in several ways.



- ❖ Press the **LIST** or **OK** button.
- ❖ Press the **MENU** button and select **Channel List**.

Changing Channels

You can change the channels within the same channel group.

Select the channel you want to watch and press the **OK** button. The displayed channel will change.

Note:

-  : Locked channel,  : Scrambled channel (CAS icons)
- Press the **i** button to view the detailed channel information.
- Press the **LIST** or **EXIT** button to exit.

Advanced Options

Changing Group

You can display the list of the selected channel group.

► TV, HDTV, Radio, Favourite 1~5, Recent

1. Press the **►** button.
2. Select a channel group.
3. Press the **OK** button.

Note:

- Press the **TV/RADIO** button to switch between TV and Radio groups.
- You can choose to hide the recent viewed channels in **MENU > Settings > Edit Channels > Hide Recent List**.



Sorting Channels

Press the **RED** button to sort the list in numerical or alphabetical order.

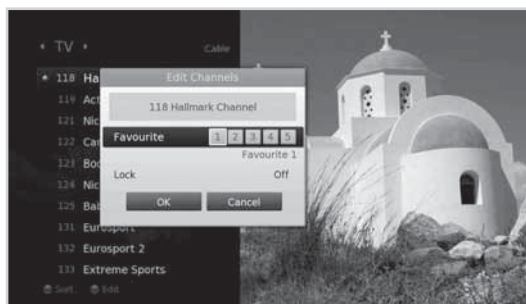
Editing Channels in Channel List

You can lock each channel in the channel list, as well as in menu. To edit the multiple channels, go to the **MENU > Settings > Edit Channels**.

Locking Channels

1. Select a channel you want to edit and press the **GREEN** button.
2. Select an option.
 - **Lock:** Select **On** or **Off**.
3. Select **OK** to save and exit.

Note: The default password is 0000. If you have forgotten your password, please contact your local distributor.



Setting Favourite Channels

You can select your favourite channels and include them in the favourite group.

1. Select a channel and press the **GREEN** button.
2. Select **Favourite** and press the **OK** button.
3. Select a favourite group you want to include the channel in and press the **OK** button.
To remove a channel from a favourite group, select the group and press the **OK** button again.
4. Select **OK** to save and exit.



Managing Channels

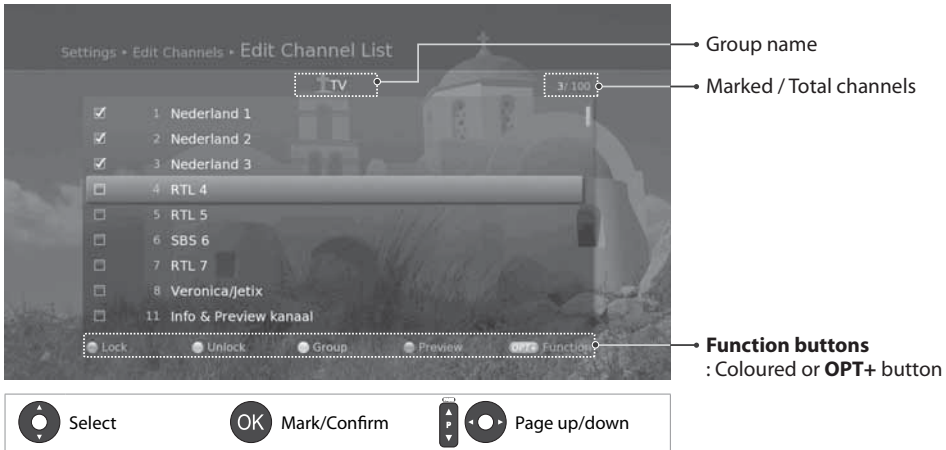
Editing Channels

The **Edit Channel List** menu will help you lock multiple channels.

MENU → **Settings** → **Edit Channels** → **Edit Channel List**

You will be prompted to enter the password to access this menu.

Note: The default password is 0000. If you have forgotten your password, please contact your local distributor.



Note:

- : Locked channel, : Scrambled channel (CAS icons)
- Press the **MENU** or **EXIT** button to exit. Press the **BACK** button to return to the previous screen.

Locking / Unlocking Channels

1. Select the channels using the **▲/▼** and **OK** button.
2. Press the **RED** or **GREEN** button.

Advanced Options

Changing Group

To list the channels of other groups, press the **YELLOW** button and select a group you want.

Note: Press the **TV/RADIO** button to switch between TV and Radio groups.

Changing Background

You can change the channel displayed in the background while editing.

1. Select the channel you want to watch.
2. Press the **BLUE** button. The displayed channel will change.

Selecting / Releasing All Channels

1. Press the **OPT+** button.
2. Select **Select All**.
3. To release all, select **Release All**.

Managing Channels

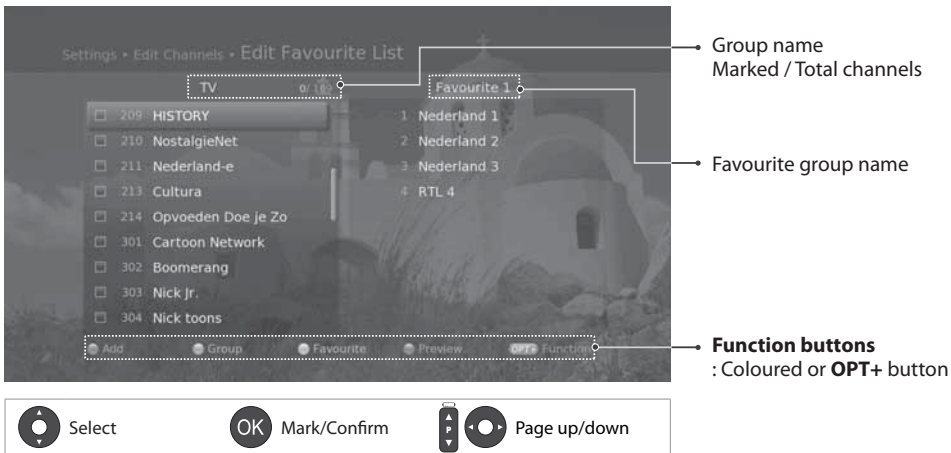
Editing Favourite Channels

The **Edit Favourite List** menu will help you add or remove channels from the favourite groups.

MENU → **Settings** → **Edit Channels** → **Edit Favourite List**

You will be prompted to enter the password to access this menu.

Note: The default password is 0000. If you have forgotten your password, please contact your local distributor.



Note: Press the **MENU** or **EXIT** button to exit. Press the **BACK** button to return to the previous screen.

Adding / Removing Favourite Channels

1. Press the **YELLOW** button and select the favourite group you want to edit.
2. To add channels to the favourite list, select the channels you want to add using the **▲/▼** and **OK** button in the left column and then press the **RED** button. The added channels will appear in the right column.
3. To remove channels from the favourite list, select the channels you want to remove in the right column and then press the **RED** button.

Moving Channels

1. Select the channels using the **▲/▼** and **OK** button.
2. Press the **GREEN** button.
3. Move the selected channels to the location you want using the **▲/▼** and **OK** button.

Note: You can move the channels in the right column only.

Renaming Favourite Groups

1. Press the **YELLOW** button and select the favourite group you want to edit.
2. Press the **OPT+** button.
3. Select **Rename Favourite**.
4. Enter the name in the keyboard.

Advanced Options

Changing Group

To list the channels of other groups in the left column, press the **GREEN** button and select a group you want.

Note: Press the **TV/RADIO** button to switch between TV and Radio groups.

Changing Background

You can change the channel displayed in the background while editing.

1. Select the channel you want to watch.
2. Press the **BLUE** button. The displayed channel will change.

Selecting / Releasing All Channels

1. Press the **OPT+** button.
2. Select **Select All**.
3. To release all, select **Release All**.

Managing Channels

Favourite Channel Numbering

You can change the favourite channel numbers to be numbered in the order in which they are added.

MENU → **Settings** → **Edit Channels** → **Favourite Ch Numbering**

You will be prompted to enter the password to access this menu.

Note: The default password is 0000. If you have forgotten your password, please contact your local distributor.

1. Select **On** to set the favourite channels be numbered in the order in which they are added.
2. Select **Off** to set the favourite channels be numbered in original channel number.



Menu On/Off

Select

OK Confirm

Hide Recent List

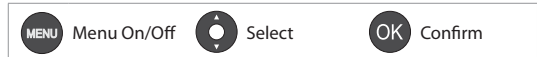
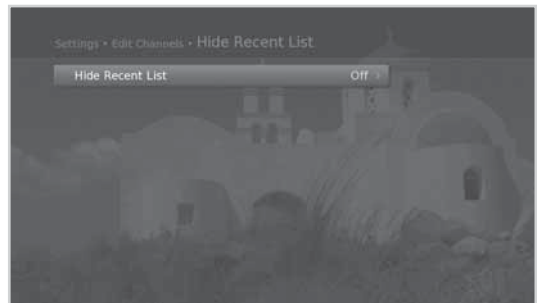
You can hide the recent viewed channels in the channel list for your privacy.

MENU → **Settings** → **Edit Channels** → **Hide Recent List**

You will be prompted to enter the password to access this menu.

Note: The default password is 0000. If you have forgotten your password, please contact your local distributor.

Select **On** to hide the recent viewed channels.



Menu On/Off

Select

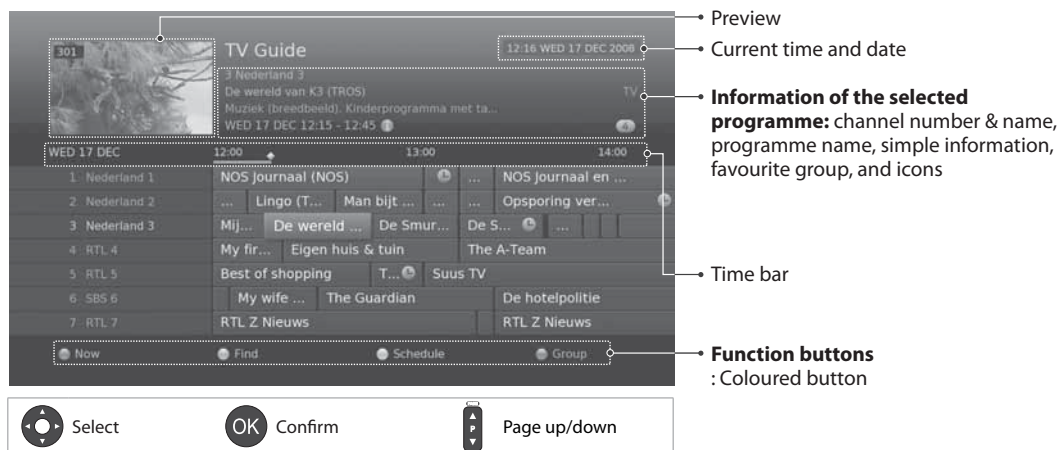
OK Confirm

The TV guide is an on-screen guide of grid type which displays the programme information of channels in time and date order.

You can access the TV guide in several ways.

- ❖ Press the **GUIDE** button.
- ❖ Press the **MENU** button and select **TV Guide**.

Note: Press the **GUIDE** or **EXIT** button to exit. Press the **BACK** button to return to the previous screen.



Note:

- Press the **i** button to view the detailed programme information.
- : Scheduled programme (Red: Record, Blue: Reminder), : Recording programme, : Present time

Watching Programmes

1. Select a programme and press the **OK** button. The programme will be displayed in the preview.
2. Press the **OK** button again to exit the TV guide and watch the programme.

TV Guide

Setting Reminders or Recordings

1. Select a future programme and press the **OK** button.
2. Select **Reminder** or **Record** and press the **OK** button.
Select **Repeat** to change the repeat mode.
3. Press the **OK** button again to cancel the reservation.
The reserved programmes will be added automatically in **Schedule**.

Note:

- If the programme is conflicted with another programme, adjust the reservation appropriately.
- If the channel is locked, you will be prompted to enter your password to complete the reservation. The default password is 0000. If you have forgotten your password, please contact your local distributor.
- You can reschedule reminders or recordings. (Refer to **Scheduling Reminders and Recordings**.)

Advanced Options

Quick Navigation

Press the ◀/▶ button to move to the previous/next programme.

Press the **REWIND / FAST FORWARD** button to jump back/ahead two hours.

Press the **PREVIOUS / NEXT** button to move to the previous/next day.

Press the **RED** button to go back to the current watching programme.

Changing Group

To list the channels of other groups, press the **BLUE** button and select a group you want.

Note:

- Press the **TV/RADIO** button to switch between TV and Radio groups.
- To search specific programmes, go to **Find** by pressing the **GREEN** button. (Refer to **Finding Programmes**.)

Finding Programmes

Find will help you find the programmes more specifically using the keyword or genre.

By Keyword

1. Press the **GREEN** button.
2. Select **Keyword** and press the ► button.
3. Select a keyword and press the **OK** button.

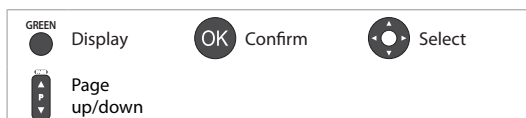
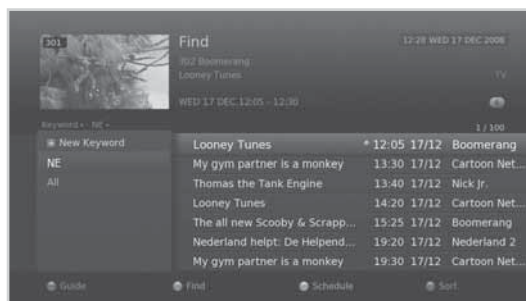
Note: To enter a new keyword, select **New Keyword**.

By Genre

1. Press the **GREEN** button.
2. Select **Genre** and press the ► button.
3. Select a genre and press the **OK** button.
4. Select the specific genre and press the **OK** button. (if provided)

Note:

- Press the **i** button to view the detailed programme information.
- Press the **OK** button to watch a found programme.
- You can set reminders or recordings for future programmes. (Refer to **Setting Reminders or Recordings**.)

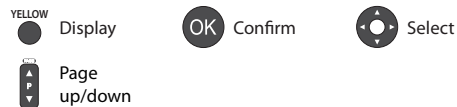
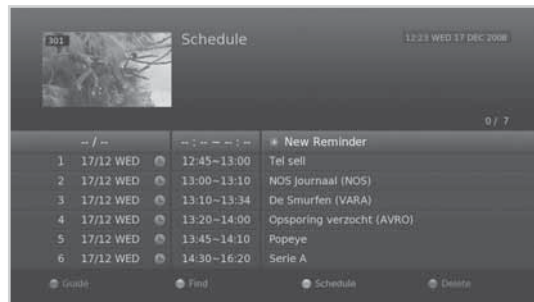


TV Guide

Scheduling Reminders and Recordings

Schedule lists reminders or recordings and will help you manage them in more detail.

1. Press the **YELLOW** button.
2. You can add, edit or delete your reminders or recordings.
 - To add, select **New Reminder** and press the **OK** button.
 - To edit, select a reservation and press the **OK** button.
 - To delete, select a reservation and press the **BLUE** button.
3. **Reservation** will pop up. You can change the options you want using the **▲/▼/◀/▶**, **NUMERIC(0~9)** and **OK** buttons.
4. Select **OK** to save and exit.



Note:

- Press the **i** button to view the detailed programme information.
- You can easily set reminders or recordings in **TV Guide**, **Find** or **i-plate** navigation mode.

Recording and Playback

You can record programmes in the built-in hard disk drive and playback the recorded programmes whenever you want.

Note: Recorded radio programmes are saved in the Video List.

Recording

You can watch another channel while recording a channel or record programmes from two different channels at the same time.

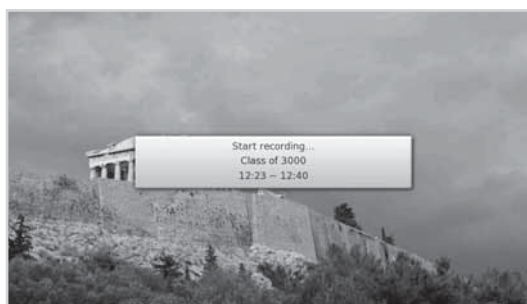
Instant Recording

You can record the currently watching programme instantly and change the recording duration.

To instantly record the current programme you are watching, press the **RECORD** button.

The recording will start from the current broadcast point and the record banner will be displayed for a few seconds.

Press the **STOP** button to stop recording the programme.

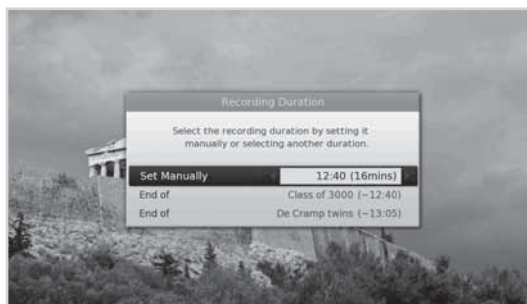


The recording will continue till the end of the current programme. However, if the programme ends in less than ten minutes, it will continue till the end of the next programme. When no programme information is provided, the recording will continue for two hours.

Changing Recording Duration

1. Press the **RECORD** button on the currently recording channel.
2. Set the duration manually or select till the end of the current programme or the next programme.

Note: The End Padding Time set in **MENU > Settings > Preferences > Recording** is automatically applied.



Recording and Playback

Delayed Recording

You can rewind the currently watching programme to the point you started watching and start recording from that point.

To rewind the programme you are watching, press the ◀ button to go back to the moment you started watching. Press the **RECORD** button to record from that point. The programme will be recorded from the point you started watching.

Press the **STOP** button to stop recording the programme.

Scheduled Recording

You can easily set the recording reservations in **TV Guide**, **Schedule** or i-plate navigation mode.

- ❖ Select a future programme and press the **OK** button in **TV Guide**.
(Refer to **Setting Reminders or Recordings**.)
- ❖ Select **New Reminder** and press the **OK** button in **Schedule**.
(Refer to **Scheduling Reminders or Recordings**.)
- ❖ Press the **OK** button on a future programme in i-plate and select **Record**.
(Refer to **Programme Information**.)



The recording will start at the scheduled time and the record banner will be displayed for a few seconds.

Press the **STOP** button to stop recording the programme.

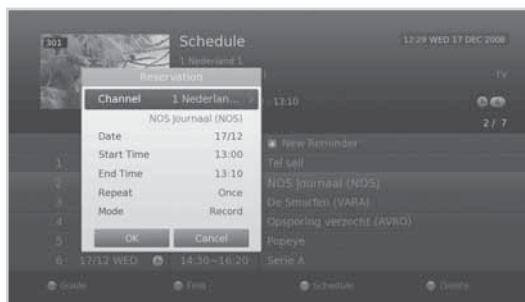
Note:

- Press the **GUIDE** button to go to **TV Guide**.
- Press the **GUIDE** button and press **YELLOW** button to go to **Schedule**.
- Press the **i** button while watching a programme to display the i-plate.

Editing Recording Schedule

You can edit or delete your reservations in **Schedule**.

- To edit, select a reservation and press the **OK** button. You can change the options such as channel, date, time, repeat mode, etc.
- To delete, select a reservation and press the **BLUE** button.



Recording Conflict

You can watch another channel while recording a channel or record programmes from two different channels at the same time.

Recording Duration Conflict

When an instant recording conflicts with one of the scheduled recordings (or reminders), you can either;

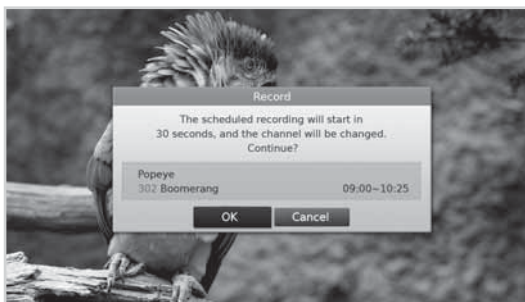
- ▶ Record for the automatically modified duration.
- ▶ Cancel either of the scheduled recordings (or reminders).
- ▶ Cancel the previous recording.



Watching Conflict

When a scheduled recording starts on a different channel while you are watching a channel and recording another channel, a record notice will pop-up 30 seconds before the scheduled recording starts.

- ▶ **OK:** The channel will change at the start time and the scheduled recording will start automatically.
- ▶ **Cancel:** The scheduled recording will be canceled.



Scheduling Conflict

When a new scheduled recording conflicts with one of the previously set recordings (or reminders), you will be prompted to select up to two programmes you want to keep.

Select the programme using the ▲/▼ and **OK** button.



Recording and Playback

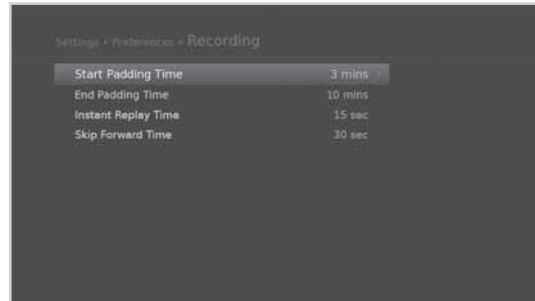
Setting Recording Options

MENU → Settings → Preferences → Recording

You can set the recording padding time in case the recording starts earlier or ends later than scheduled.

- **Start Padding Time** : Additional recording time before the recording starts.
- **End Padding Time** : Additional recording time after the recording ends.

You also can set the instant replay or skip time for the **INSTANT REPLAY** or **SKIP** button.



Note:

- You can record radio programmes also.
- The record banner will be displayed with the i-plate whenever pressing the **i** button.
- You can change the recording duration by using the **RECORD** button for instant recording or by going to **MENU > TV Guide > Schedule** for scheduled recording.
- When a new scheduled recording starts while a recording is already in progress, the record banner will be displayed for a few seconds to inform you that the recording has been started. If you are not watching the channel being recorded, a record notice will pop-up 30 seconds before the scheduled recording starts, and the channel will switch to the scheduled programme automatically at the start time.
- Pressing the **STANDBY** button while recording will not stop the recording. New recordings will start even in standby mode.
- While watching a recording programme, you can trick-play using the playback control buttons such as pause, fast rewind, instant replay, slow, etc.
- You can record the digital TV or radio programmes only. The external AV inputs can't be recorded.
- Ensure that there is enough free space before recording. If the free space on the hard disk drive is insufficient, recording will stop. Recording one hour of programme may require up to 2 or 3GB of hard disk space. The space for recording a 1 hour programme may differ depending on the programme.
- To view the recorded programme list, press the **MEDIA** or **MENU** button and select **Video**. (Refer to **Using Video List**.)



Playback

You can playback the recorded programmes that are stored in the built-in hard disk drive.

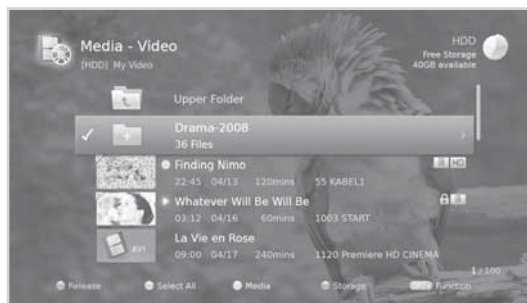
Playing Recordings (Video)

You can access the recorded file list easily and play the recorded programmes.

- ❖ Press the **MEDIA** button.
- ❖ Press the **MENU** button and select **Video**.

Select a file and press the **OK** button. Playback will start.












You can perform fast rewind, fast forward, slow motion and pause while playing back a recorded file. The green playbar is displayed when pressing the **PLAY, FAST FORWARD, REWIND, SLOW** or **PAUSE** button while playing.



Note: Enter the time directly using the **NUMERIC** buttons to jump to the accurate location.

Recording and Playback

Playback Controls

	Play
	Pause the scene. Press the PAUSE button again to go back to play mode.
	Stop the playback of the current file and go to live TV.
	Fast Rewind
	Fast Forward
	Move to the previous chapter and replay the scenes.
	Move to the next chapter and skip scenes.
	Jump to the previous or next scene.
	Add or delete a bookmark in your desired scene. The bookmarked scene is shown as a yellow pointer.
	Jump to bookmarked scenes directly. The play pointer will first move to the nearest bookmark.
	Watch the recording in slow video.

Note:

- Chapters are made by dividing the recorded programme into eight portions.
- Fast forwarding and jump may not function in programmes restricted by DRM.
- Bookmarks are available only when playing back the recorded programmes.
- Up to four bookmarks can be used, and the bookmarks will remain even if you stop playback.
- Refer to **Media List > Using Video List** for more details about the recorded files.

 Record	 Select	 OK Confirm	 Enter 0~9
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Pausing and Rewinding Live TV (TSR)

Time Shifted Recording (TSR) allows you to pause a live broadcast and return to it later and continue where you left off.

The TSR function automatically saves the programmes you watch to the built-in hard disk drive temporarily.

TSR lasts for 120 minutes



To pause the programme you are watching,

Press the **PAUSE** button. Press the **PLAY** button to return. Pause makes a time gap between the live broadcasting point and watching point. The time gap is equivalent to the period the programme has been paused.

Press the **STOP** button to close the time gap and go to live programme.

To rewind and watch missed scenes,

Press the **REWIND** button. Press the **PLAY** button at the point where you want to start watching. You can pause, rewind or fast forward within the programme.

You can fast rewind back to the start point. If you reach the start point while rewinding, the programme is automatically played at normal speed.

To fast forward and skip scenes,

Press the **FAST FORWARD** button. You can fast forward only when there is a time gap between the current watching point and the live broadcasting point caused by pause, slow motion or fast rewind. You can fast forward up to the current broadcasting point. If you reach the live broadcasting point while fast forwarding, the programme is automatically played at normal speed.

Note: Fast forwarding and jump may not function in programmes restricted by DRM.



Record



Select



OK Confirm



Enter 0~9

Media List

You can retrieve video, music or photo files from the built-in hard disk drive, the USB storage devices, or the DLNA compliant devices.

You can access Media List in several ways.

- ❖ Press the **MEDIA** button.
- ❖ Press the **MENU** button and select **Video, Music** or **Photo**.
- ❖ Connect a USB storage device for media and select your desired media type.

Video	Lists TV/Radio recordings or XviD files.
Music	Lists MP3 files.
Photo	Lists JPEG files.

Note:

- Press the **MEDIA** or **EXIT** button to exit. Press the **BACK** button to return to the previous screen.
- When you connect a USB storage device, the media type menu is displayed automatically.
- Select **Copy** to copy the media files to the different devices. (Refer to **Using the Video List > Editing Files**.)

Switching Storage

1. Press the **BLUE** button to switch the storage.
2. Select the storage and press the **OK** button.
 - **HDD**: Displays the internal HDD.
 - **USB**: Displays each partition of the connected USB storage devices. Select a USB.
 - **Network**: Displays the connected DLNA compliant devices. Select the server.



Switching Media

1. Press the **YELLOW** button to switch the media type.
2. Select the media type and press the **OK** button.
 - **Video, Music, Photo**



Note:

- Please use only the USB storage device which was formatted with ext3, FAT or NTFS file system.
- **Supported features according to USB file system**
 - **ext3:** Read, Copy (Digital TV/Radio, MP3, JPEG, XviD)
 - **FAT:** Read, Copy (Digital TV/Radio, MP3, JPEG, XviD)
 - **NTFS:** Read (MP3, JPEG, XviD)
- USB ports on your product supply 800mA in total. This 800mA is shared among all devices connected to product.
- Please connect power to a USB storage device which requires an external power supply. If not, the device may not be recognized.
- Please connect a USB storage device with the cable offered by the device maker. If you use a cable which is not offered by the device maker or an excessively long cable (max 5m), the device may not be recognized.
- If the USB storage device is connected in standby mode, it will automatically be recognized when the product is turned on.
- A USB storage device using an automatic recognition programme may not be recognized.
- A USB storage device which uses its own driver may not be recognized.
- The recognition speed of a USB storage device may depend on each device.
- Please do not disconnect or turn off the USB storage device while playing back. When the USB storage device is suddenly separated or unplugged, the stored files or the USB storage device may be damaged.
- Be sure to back up important files since data stored in a USB storage device may be damaged. We will not be responsible for any data loss.
- If your USB storage device has multiple partitions, or if you use a USB multi-card reader, you can use up to 4 partitions or USB memory devices.
- If the USB memory stick does not work properly, disconnect and reconnect it.
- Some USB storage devices may not be supported or operated smoothly.
- How fast a USB storage device is detected differs from device to device.
- USB storage devices below USB 2.0 are supported as well. But they may not work properly.
- The system may require a longer time to read large amounts of data stored in a USB device.
- Only one USB icon will appear even when there are more than one USB.
- The network icon is displayed only when the network has been connected.



Media List

Using Video List

You can play TV/Radio recordings or XviD files from the built-in hard disk drive, the USB storage devices, or the DLNA compliant devices.

MENU → Video

Note:

- Press the **YELLOW** button to switch the media type.
- Press the **BLUE** button to switch the storage.
- Press the **i** button to view the detailed programme information.
- Recorded radio programmes are saved in the Video List.



Note: : Recording icon, : Playing icon, : HD icon, : CAS icon, : Lock icon

Playing Files

Select a file and press the **PLAY** button. Playback will start from the recently viewed point. To play multiple files successively, select the files using the **RED** button and press the **PLAY** button.

You can perform fast rewind, fast forward, slow motion and pause while playing back a recorded file. Refer to **Recording and Playback > Playback** for details on playback control and playbar.

Note:

- You will be prompted to enter the password when playing locked files.
- Some playback control buttons may not function depending on the contents.



Play Options

Select the file and press the **OK** button. The play options for video will pop up.

- ▶ **Resume Play:** Play the file from the point it has been stopped.
- ▶ **Play from the Start:** Play the file from the beginning.
- ▶ **Delete:** Delete the file. Select **Yes** and press the **OK** button.
- ▶ **Rename:** Rename the file. Enter the name of the file in the keyboard and press the **YELLOW** button.
- ▶ **Lock:** Lock the file. Enter the password to unlock.



Editing Files

Sorting Files

1. Press the **OPT+** button.
2. Select **Sort** and press the **OK** button. The files will be sorted in alphabetical order.
3. To sort the files in time order, repeat the above procedure.

Note: Sorting files is available for video files only.

Deleting Files

1. Select the file(s) you want to delete and press the **OPT+** button.
2. Select **Delete** and press the **OK** button.
3. Select **Yes** and press the **OK** button.



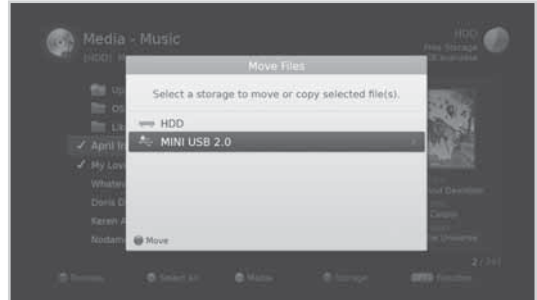
Locking Files

1. Select the file(s) you want to lock and press the **OPT+** button.
2. Select **Lock** and press the **OK** button.
3. To unlock, press the **OPT+** button again and select **Unlock**.
4. Enter the password.

Media List

Moving / Copying Files

1. Select the file(s) you want to move and press the **OPT+** button.
2. Select **Move** and press the **OK** button.
3. Select the folder or storage you want to move the file(s) to and press the **OK** button.
 - > **Moving the file(s) within the same storage:**
Select the folder you want to move the file(s) to and press the **OK** button.
 - > **Copying the file(s) to another storage:** Select the storage and then select the folder to copy the file(s) to. Press the **OPT+** button to create the folder.



Note:

- When moving a locked file, you will be prompted to enter the password.
- When a file is moved to a different storage, it will be copied. However, video recordings cannot be copied to other storages.

Renaming Files

1. Select the file you want to rename and press the **OPT+** button.
2. Select **Rename** and press the **OK** button.
3. Enter the name of the file in the keyboard and press the **YELLOW** button.

Creating Folder

1. Press the **OPT+** button.
2. Select **New Folder** and press the **OK** button.
3. Enter the name of the folder in the keyboard and press the **YELLOW** button.

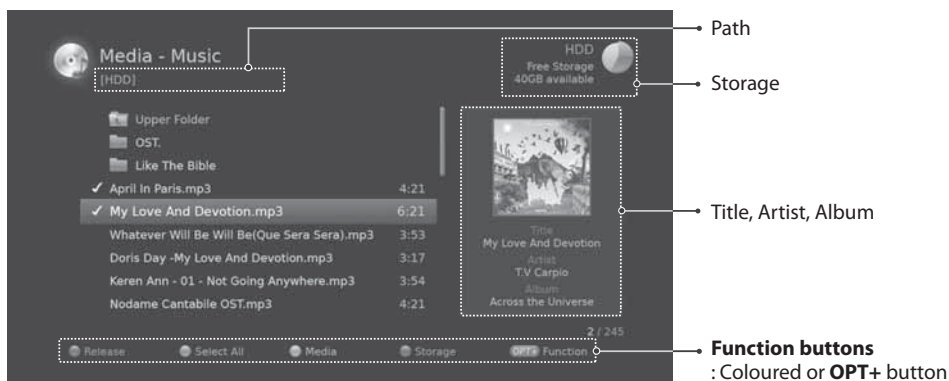
Using Music List

You can play MP3 audio files from the built-in hard disk drive, the USB storage devices, or the DLNA compliant devices.

MENU → Music

Note:

- Press the **YELLOW** button to switch the media type.
- Press the **BLUE** button to switch the storage.



Playing Files

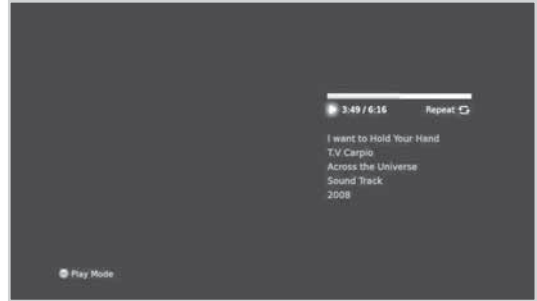
Select a file and press the **OK** or **PLAY** button. All files in the folder will be played successively. To play the selected files only, select the files using the **RED** button and press the **OK** or **PLAY** button.



Media List

Music Player

The music player is displayed while playing the music file(s).



	Plays or pauses		Plays
	Plays the previous file		Pauses
	Plays the next file		Changes the play mode (once, repeat, repeat all, shuffle)
	Plays the first file		Stops the music player and displays the list
	Plays the last file		Exits the music player and goes to live TV

Editing Files

Deleting, moving, renaming the music files or creating new folders are the same as in the video list. Refer to **Using Video List > Editing Files**.

Using Photo List

You can play JPEG photo files from the built-in hard disk drive, the USB storage devices, or the DLNA compliant devices.

MENU → **Photo**

Note:

- Press the **YELLOW** button to switch the media type.
- Press the **BLUE** button to switch the storage.

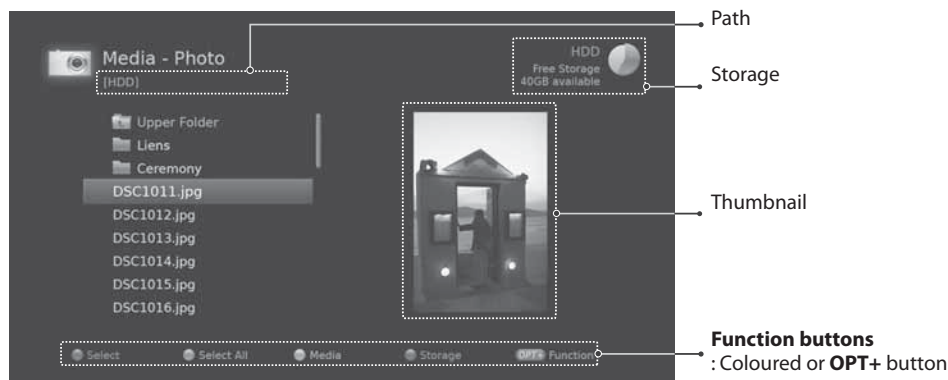
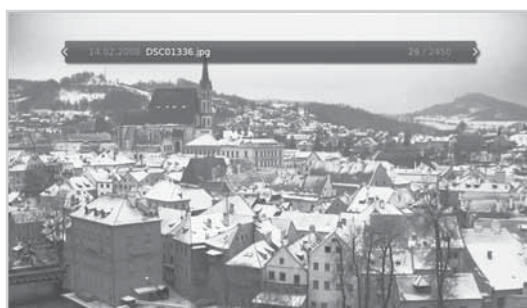


Photo Slideshow

Select a file and press the **OK** or **PLAY** button. All files in the folder will be shown successively. To slideshow the selected files only, select the files using the **RED** button and press the **OK** or **PLAY** button.

The info banner is displayed while slideshow is paused.



	Pauses or plays		Plays
	Shows the previous photo		Pauses
	Shows the next photo		Stops slideshow and displays photo list
	Shows the first photo		Exits slideshow and goes to live TV
	Shows the last photo		



Media List

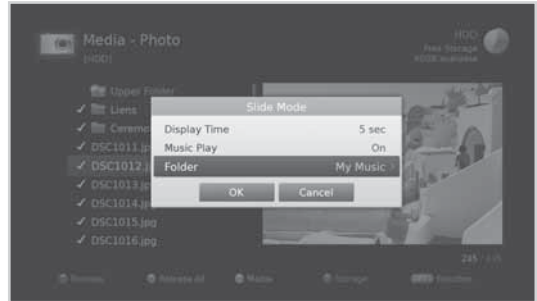
Editing Files

Deleting, moving, renaming the photo files or creating new folders are the same as in the video list. Refer to **Using Video List > Editing Files**.

Slide Mode

You can play music files during slideshow.

1. Press the **OPT+** button.
2. Select **Slide Mode** and press the **OK** button.
 - > **Display Time:** The duration a photo is displayed
 - > **Music Play:** Select **On** to play music files during slideshow.
 - > **Folder:** Select the folder the music files in located in using the **RED** button.
3. Select **OK** to save and exit.



In this chapter you can set options for parental control, language, time, video, audio and others.

Note: Press the **MENU** or **EXIT** button to exit. Press the **BACK** button to return to the previous screen.

Parental Control

MENU → **Settings** → **Preferences** → **Parental Control**

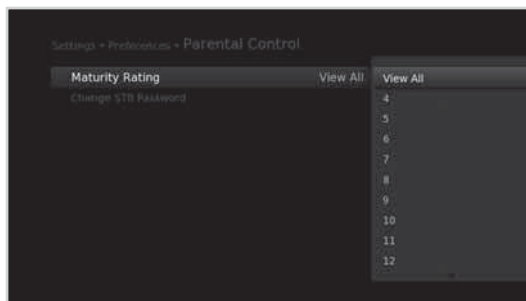
You will be prompted to enter the password to access this menu.

Note: The default password is 0000. If you have forgotten your password, please contact your local distributor.

Maturity Rating

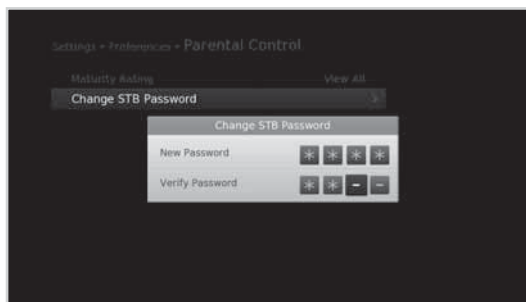
1. Select **Maturity Rating**.
2. Select an option.
 - **View All**
 - **4~18:** Blocks the programmes for viewers who are not above the age limit.
 - **Lock All**
3. Press the **OK** button.

Note: The password is required to view the blocked programmes.



Changing Password

1. Select **Change STB Password**.
2. Enter the new password.
3. Enter the new password again for verification.



Preferences

Language Setting

MENU → Settings → Preferences → Language

1. Select **System Language, Audio Language or Subtitle Language.**
2. Select the language.

Note:

- If you select **Off** in subtitle language, the subtitle will not be displayed.
- You can change the audio or subtitle language by pressing the **AUDIO** or **SUBTITLE** button while watching a programme.



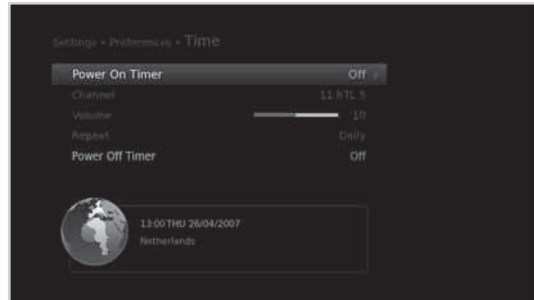
Setting Hard of Hearing

You can display the subtitle for the hard of hearing people. Select **On** to display the subtitle for the hard of hearing people.

Setting Power On/Off Timer

MENU → Settings → Preferences → Time

1. To turn on the product automatically, select **Power On Timer** and select **Set Timer.**
2. Enter the time.
3. Set the options for the power on timer.
 - **Channel:** Select the channel to be displayed when powering on.
 - **Volume:** Adjust the volume of the audio when powering on.
 - **Repeat:** Select the repeat mode of the power on timer.
4. To turn off the product automatically, select **Power Off Timer** and select **Set Timer.**
5. Enter the time.



Note: The power on time and power off time should be set different from each other.

Video Setting

MENU → Settings → Preferences → Video

Setting TV Screen Ratio

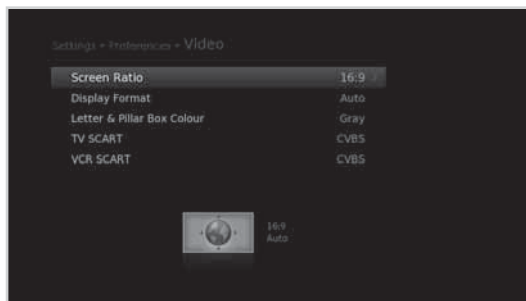
You can select the screen ratio of your TV.

1. Select **Screen Ratio**.
2. Select an option.
 - **16:9 – 4:3**








Setting Display Format

You can select the display format according to the screen ratio of your TV.

1. Select **Display Format**.
2. Select an option.
 - Screen ratio 4:3: **Auto – Letterbox 16:9 – Letterbox 14:9 – Centre**
 - Screen ratio 16:9: **Auto – Full – Zoom**



Note: You can set the display format by pressing the **WIDE** button while watching a programme. Refer to *Display Format / Resolution*.

Screen Ratio	Display Format			
4:3	 Auto	 Letterbox 16:9	 Letterbox 14:9	 Centre
16:9	 Auto	 Full	 Zoom	

Setting Letter and Pillar Box Colour

You can set the colour for the margin space according to the display format.

1. Select **Letter & Pillar Box Colour**.
2. Select an option.
 - **Black – Gray**

Preferences

Setting TV SCART / VCR SCART

You can select the video signal output option for the TV SCART or VCR SCART.

1. Select **TV SCART** or **VCR SCART**.
2. Select an option.
 - > TV SCART: **CVBS – S-Video – RGB**
 - > VCR SCART: **CVBS – S-Video**

Audio Setting

MENU → **Settings** → **Preferences** → **Audio**

Setting Audio Priority

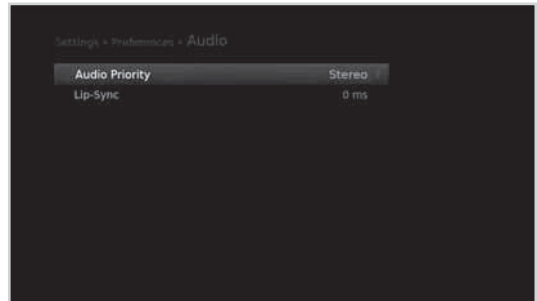
You can select the digital audio signal output of your product.

1. Select **Audio Priority**.
2. Select an option.
 - > **Stereo – Dolby Digital**

Setting Lip-Sync

You can adjust the sound difference of audio and video.

1. Select **Lip-Sync**.
2. Adjust the lip-sync using the ◀▶ button.
Pressing the right button increases the audio speed and pressing the left button decreases it.



Note: You will be prompted to enter the password to access this menu.

Screen Display

MENU → Settings → Preferences → Screen Display

Setting Info Display Time

You can set the duration the information box is displayed every time the channel is switched.

1. Select **Info Display Time**.
2. Select an option.
 - **Off – 1~20 sec**

Setting Transparency

You can set the transparency of the On-Screen Display.

1. Select **Transparency**.
2. Select an option.
 - **Off – 25% – 50% – 75%**

Setting Subtitle Font

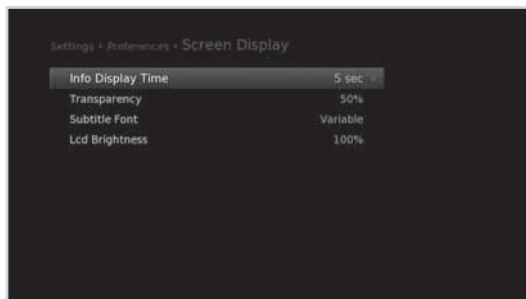
You can adjust the subtitle font.

1. Select **Subtitle Font**.
2. Select an option.
 - **Variable – Fixed**

Setting LCD Brightness

You can set the brightness level of the LCD at the front of the product.

1. Select **LCD Brightness**.
2. Select an option.
 - **Off – 50% – 100%**



Installation

In this chapter you can configure the installation setting and perform the channel search.

MENU → **Settings** → **Installation**

You will be prompted to enter the password to access this menu.

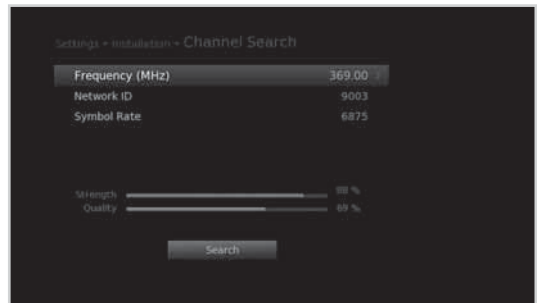
Note:

- The default password is 0000. If you have forgotten your password, please contact your local distributor.
- Press the **MENU** or **EXIT** button to exit. Press the **BACK** button to return to the previous screen.

Channel Search

If your product is connected to the cable and TV, you can search channels manually by searching parameters, if you know the MUX information.

1. Select **Channel Search**.
2. Configure the search options.
 - **Frequency:** Enter the frequency.
 - **Network ID:** Enter the network ID.
 - **Symbol Rate:** Enter the symbol rate.
3. Select **Search** and press the **OK** button. The found channels will be listed.
4. When the search has completed, select **Save** and press the **OK** button to save the found channels.



Note:

- Select **User Define** to enter options directly.
- Select **Stop** and press the **OK** button to stop the channel search.

Software Update (OTA)

In order to maintain proper performance of the product, it is essential to have the most up-to-date software. Visit the HUMAX website to check the latest news and newly released software versions. (<http://www.myhumax.nl>) It is recommended that you periodically check for the availability of software update. OTA, an abbreviation of **Over-the-Air**, means that the software can be downloaded through your broadcast system. The manufacturer reserves the right to decide when and where to release software by this process.

You can also search and download new software manually.

MENU → Settings → Installation → IRDETO Software Update

You can update software via the frequency pre-appointed by the manufacturer.

1. Select **IRDETO Software Update** and press the **OK** button to search for new software.
2. When new software is detected, select **Yes** to start the update process now.

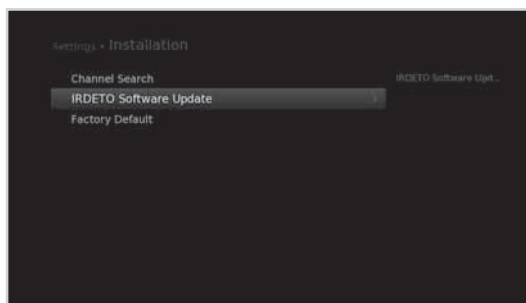
Please wait until the update is complete. When completing the software update, the product is automatically powered off and on again.

Note:

- It may take 5~10 minutes to update software.
- Other functions such as scheduling programmes will not activate while software update takes place.
- Be sure to update software when the signal strength and quality is high. If the weather is not favorable and the signal strength and quality are not recommendable, perform the software update later.
- The product will search new software automatically during standby. If new software is detected, you can choose either to download immediately or later when you switch into operation mode. If you select **No**, the message will be displayed again when you power on.
- You can also update the software by connecting a USB device which has the new software file. The file can be downloaded from the HUMAX website.

Caution:

- Please be careful to keep the power on and the power cord plugged in during software update. If the power is off during software update, fatal damage may be caused to the product.
- Please be careful not to pull out the signal line (RF cable) during software update. Update may be interrupted and the product may not operate.



Installation

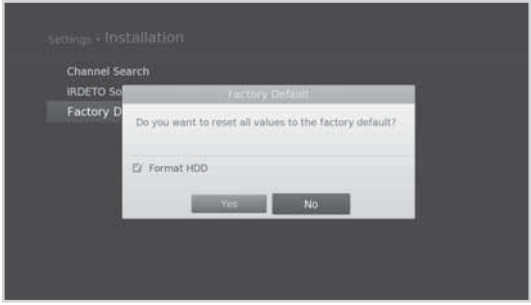
Factory Default

MENU → Settings → Installation → Factory Default

1. Select **Factory Default**.
2. A popup will appear. Select **Yes**.
3. You will be prompted to enter the password.
Enter the password.

Note:

- The default password is 0000. If you have forgotten your password, please contact your local distributor.
- To format the HDD, mark **Format HDD**.



Warning: Please note that once you perform Default Setting, all data such as installation setting information, channel list, and all user configured data will be deleted. After completing the default setting, the installation wizard will appear automatically in a few seconds.

In **System**, you can view the information of the system, signal detection, power management, conditional access, mail messages, data storage and network options are also available in this section.

Note: Press the **MENU** or **EXIT** button to exit. Press the **BACK** button to return to the previous screen.

System Information

MENU → **Settings** → **System** → **System Information**

The system information is displayed.

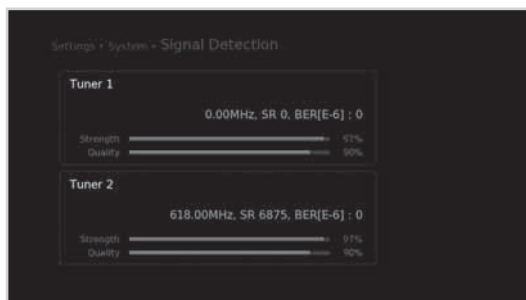


Signal Detection

MENU → **Settings** → **System** → **Signal Detection**

You can check the signal strength and quality of the searched channels.

Note: This menu will not be activated while recording.



System

Power Management

MENU → Settings → System → Power Management

Setting Power Saving in Standby

You can minimise the standby power consumption to below 1W.

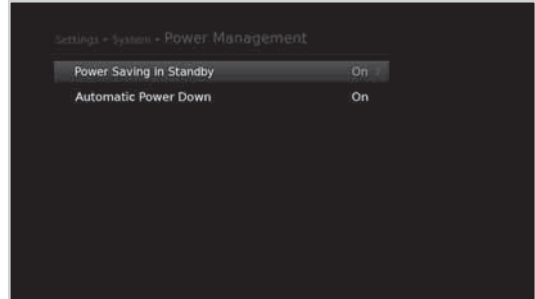
1. Select **Power Saving in Standby**.
2. Select **On** to deactivate the certain features and minimise the power consumption.

Setting Automatic Power Down

The receiver automatically enters standby mode for power saving if no user interaction occurs for 3 hours.

1. Select **Automatic Power Down**.
2. Select **On** to enter standby mode automatically if no user interaction occurs for 3 hours.

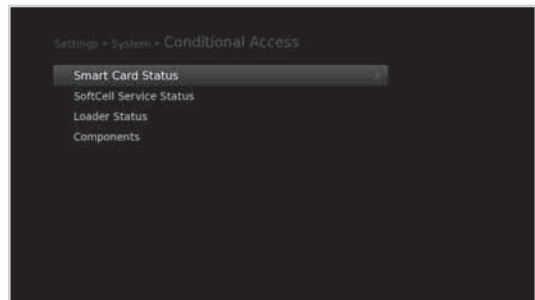
Note: The message will be displayed before entering standby mode. If no selection is made for 30 seconds, the receiver enters standby mode automatically.



Conditional Access

MENU → Settings → System → Conditional Access

You can check the information of the Smart Card status, SoftCell Service status, Loader status, and Conditional Access components.



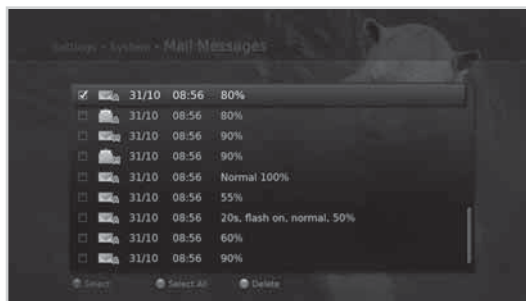
Mail Messages

MENU → **Settings** → **System** → **Mail Message**

You can receive mail sent by the broadcasting company.

When a new mail arrives, the mail icon will appear on the screen. Press the **OK** button to see the details.

The forced announcement mail will display the details on the screen as soon as it arrives, even while you are watching a programme.



Data Storage

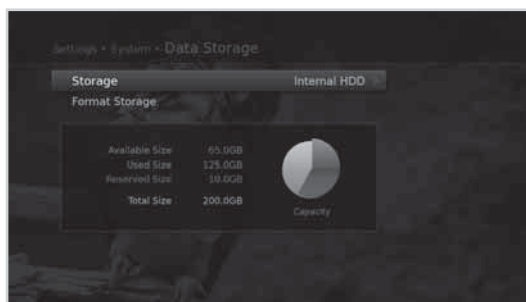
MENU → **Settings** → **System** → **Data Storage**

You can check the size of the internal HDD or external USB storage devices.

- 1 Select a storage to display the details for each storage.
- 2 To format the selected storage, select **Format Storage**. If you select **Yes**, you will be prompted to enter the password.

Note:

- The default password is 0000. If you have forgotten your password, please contact your local distributor.
- Supported Features according to USB file system
 - **ext3**: Read, Copy (Digital TV/Radio, MP3, JPEG, XviD)
 - **FAT**: Read, Copy (Digital TV/Radio, MP3, JPEG, XviD)
 - **NTFS**: Read (MP3, JPEG, XviD)



System

Network

MENU → Settings → System → Network

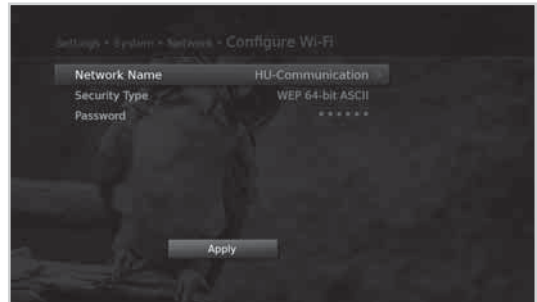
You can check the network connection status or configure the network.

Note: This function is available only when the wireless USB dongle or Ethernet cable has been connected to the product. Make sure that the wireless USB dongle or Ethernet cable is connected correctly. Refer to **Connecting the Network** for details.

Configuring Wi-Fi (wireless) (Reserved for future use.)

1. Select **Configure Wi-Fi**.
2. Configure the Wi-Fi setting options.
 - **Network Name:** Select your Wi-Fi network name.
 - **Security Type:** Select your Wi-Fi security type.
 - **Password:** Enter your Wi-Fi network password.
3. Select **Apply** to connect to the selected Wi-Fi network and press the **OK** button

Note: If your Wi-Fi network is not listed, select **Input Network Name** and enter your network name in the keyboard.

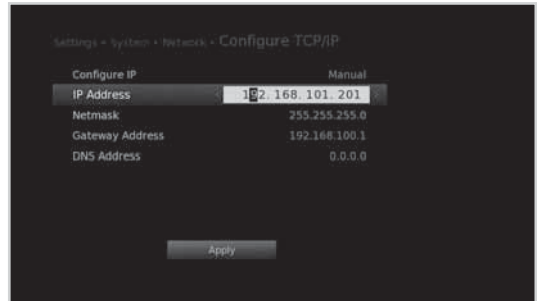


Configuring IP (LAN)

1. Select **Configure TCP/IP**.
2. Select your IP configuration type between **DHCP** and **Manual**.
 - **DHCP:** If you use a router or modem that has a DHCP (Dynamic Host Configuration Protocol) server function, select **DHCP**. The IP address will automatically be determined.
 - **Manual:** If there is no DHCP server on the network and you want to set the IP address manually, select **Manual**. Enter the values for IP Address, Subnet Mask, Gateway Address and DNS Address.
3. Select **Apply** to connect to the selected network and press the **OK** button.

Note:

- When entering the IP address manually, enter 3 digits in a row.
- The network is connected by LAN when both Wi-Fi and LAN are activated.
- HUMAX recommends the network connection over a direct LAN.



Setting FTP Server

You can transfer the media files in the internal HDD into your PC with FTP program.

1. Select **FTP Server**.
2. Select **On** to make the product work as FTP server.

Note:

- You can access to the internal HDD by entering the IP address assigned to the product on PC.
- When accessing, enter 'HumaxFTP' for Login ID and your password for Login Password.

Appendix

Specification

Tuner & Channel	
No. of Tuners	2
Input Connector	IEC 169-2, Female
Frequency Range	54MHz to 870MHz
Signal Level	-15dBmV to +15dBmV @ 64-QAM, 128-QAM -12dBmV to +15dBmV @ 256-QAM
Audio/Video Decoding	
Audio Decoding	MPEG/MusiCam Layer I & II, Dolby AC-3, Dolby Digital Plus
Audio Mode	Single channel/Dual channel/Joint stereo/Stereo
Video Decoding	MPEG-2 ISO/IEC 13818 HD MPEG2 / SD MPEG2 / MPEG4(H.264/AVC) Transport Stream Specification
Video Format	4:3, 16:9
Video Resolution	1080i, 720p, 576p, 576i
Memory	
Flash Memory	32MB
RAM	256MB
EEPROM	8KB
Audio/Video In/Out	
Video	TV-SCART, VCR-SCART, RCA, HDMI
Audio	TV-SCART, VCR-SCART, Audio L/R, S/PDIF (Digital Audio Output)
Data In/Out	
USB	USB 2.0 Host (5 V=500, 300mA Max.)
File Format	JPEG(.jpeg, .jpg, .jpe, .jff), MP3(.mp3, .mp2, .mp1)
Hard Disk	
HDD	500GB

Power Supply	
Input Voltage	90-250V a.c., 50/60Hz
Type	SMPS
Power Consumption	Max. 28W (Standby: Under 1W)
Protection	Separate internal fuse. The input should be protected against lightning.
Physical Specification	
Size (w/h/d)	380mm×55mm×246mm
Weight	2.8kg
Operating Temperature	0 °C to +45 °C

Note: The specifications are subject to change without notice.

Appendix

Service and Support

Information concerning troubleshooting, software upgrade and product support is provided in the following websites and call centers. Should your product require warranty service, please contact HUMAX to obtain the appropriate authorization.

HUMAX Call Center

Nederland	Tel: Opening Hours: E-mail: Website: Language:	(+31) 040 2 306 250 Mon-Fri 9:00-17:00 info@myhumax.nl http://www.myhumax.nl Dutch/English
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Note: For hardware repair, please visit our website.

Safety Warning

This product has been manufactured to comply with international safety standards. Please read the following safety precautions carefully.

Safety Instructions and Precautions

1. MAINS SUPPLY

- Operate this product only from the type of power supply indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your local power company.
- Disconnect the product from the mains before you start any maintenance or installation procedures.

2. OVERLOADING

- Do not overload a wall outlet, extension cord or adapter as this may result in electric fire or shock.

3. LIQUID

- The product should not be exposed to liquid of any kind. In addition, no objects filled with liquid should be placed on the apparatus.

4. CLEANING

- Disconnect the product from the wall outlet before cleaning.
- Use a light damp cloth (no solvents) to dust the product.

5. VENTILATION

- The slots on top of the product must be left uncovered to allow proper airflow into the unit.
- Do not stand the product on soft furnishings or carpets.
- Do not stack electronic equipments on top of the product.

6. ATTACHMENTS

- Do not use any unsupported attachments as these may be hazardous or cause damage to the product.

7. LIGHTNING, STORM OR NOT IN USE

- Unplug the product from the wall outlet and disconnect the antenna during a thunderstorm or when left unattended and unused for long periods of time. This will prevent damage to the unit due to lightning and power-surges.

8. EXTRANEIOUS OBJECTS

- Do not insert anything through the openings in the unit, where they can touch dangerous voltage points or damage parts.

9. REPLACEMENT OF PARTS

- When replacement of parts is required, be sure the service technician uses replacement parts specified by the manufacturer or those that have the same characteristics as the original part. Unauthorized substitution may result in additional damage to the unit.

10. CONNECTION

CONNECTION TO THE CABLE TV SIGNAL

- Connect all components before plugging any power cords into the wall outlet. Always turn off the product, TV and other components before you connect or disconnect any cables.

11. CONNECTION TO THE TV

- Disconnect the product from the mains before connecting or disconnecting the cable from the TV. Failure to do so can damage the TV.

Appendix

12. LOCATION

- Place the product indoors to avoid exposing it to lightning, rain or sun. Do not place it near a radiator or heat register.
- We recommend that the product has 10 cm clearance from any other appliances susceptible to electromagnetic influences, such as a TV or a VCR.
- Do not block the openings with any object, and do not place the product on a bed, sofa, rug, or other similar surface.
- If you place the product on a rack or a bookcase, ensure that there is adequate ventilation and that you have followed the manufacturer's instructions for mounting.
- Do not place the product on an unstable cart, stand, tripod, bracket, or table where it can fall. A falling product can cause serious injury to a child or adult, and serious damage to the appliance.

Warning

1. To avoid damage of the power cord or plug;

- Do not modify or process the power cord or plug arbitrarily.
- Do not bend or twist the power cord.
- Make sure to disconnect the power cord holding the plug.
- Keep heating appliances as far as possible from the power cord in order to prevent the cover vinyl from melting.
- The mains plug, as a disconnection device, shall remain readily accessible by the user.

2. To avoid electrical shock;

- Do not open the main body.
- Do not insert metal or inflammable objects inside the product.
- Do not touch the power plug with wet hands.
- Disconnect the power cord in case of lightning.

3. To avoid damage of product;

- Do not use the product when it is out of order. If you continue to use the product when defective, serious damage can be caused. Make sure to contact your local product distributor if the product is out of order.
- Do not insert metal or alien substance into the slots for the modules or Smartcards. (where applicable) It may cause damage to the product and reduce its life span.

4. To avoid damage of the hard disk drive (PVR only)

- Do not move the product or turn the power off suddenly while the hard disk drive is running.
- The company shall not be liable for any corruption of data on the hard disk drive caused by carelessness or misuse.

Trouble Shooting

Before contacting your local service centre, please read the tips below carefully. If the problem persists after completing the following procedure, please contact your local product distributor or service centre for further instructions.

1. No message displayed on the front display. (The product will not switch on.)

- Check the main power cable and make sure it is plugged into a suitable power outlet.
- Check that the mains supply is switched on.
- Connect the power cable to a different power outlet.
- Check that the power switch is on at the rear of the product. (where applicable)

2. No picture

- Make sure that the product is powered on and in operation mode. (Press the **STANDBY** button)
- Make sure that the AV cable is firmly connected to the TV.
- Make sure that the antenna cable is properly connected to the product.
- Be sure to activate channel search.
- Check the brightness level of the TV.
- Check if the channel is currently on air. Contact the broadcaster to ensure that the channel is running.
- Press the **SOURCE** button if the product is in external input mode. (where applicable)

3. Poor picture/sound quality

- Make sure there is no mobile phone or microwave oven near the product.
- Keep the power and the RF cables apart from each other.

Note: If the antenna is covered with snow or the RF is weakened by heavy rain, the condition of the sound and picture may temporarily be poor. However, the poor sound and picture quality due to weather conditions cannot be accepted as a malfunction of product.

4. No or poor sound

- Check that your AV cable is connected correctly.
- Check the volume levels of your TV set and the product.
- Check if the product or TV is on mute.
- Check audio type or soundtrack option. (where applicable)

5. Remote control does not operate.

- To control the product, the top end of the remote control should point directly towards the receiving part of the product.
- Remove and reinsert the batteries in the remote control.
- Replace the batteries in the remote control for a new set.
- Set the remote control to STB or PVR mode, if you are using the universal remote control. (where applicable)

6. Cannot make reservations.

- Check that no previous reservations are conflicting with the new reservation.

7. No password information is given.

- The default password is always **0000**.

8. Channel search does not work.

- Make sure that your cable is connected correctly.

9. Cannot update new software.

- You can get an update. If the product does not show a message requesting update, this means no software is available.

Appendix

10. Cannot watch scrambled channels.

- Check that you have the appropriate Smartcard. Reinsert the Smartcard and make sure it initialises correctly.
- Check in the menu that the product is detecting the Smartcard.
- Check in the menu that you have a valid and working subscription to the channels you wish to view.
- Ensure that the Smartcard is not damaged.

11. Cannot watch pay channels.

- Check in the menu that you have a valid and working subscription to the channels you wish to view.
- Contact your network operator for more information.

12. The product makes a humming noise.

- The noise is from the fan; the hard disk is operating normally. This kind of noise is inevitable but seldom noticeable.

13. Cannot record programmes. (PVR only)

- The hard disk is full. Delete unnecessary programmes and make space for new recording.
- Check if recording is conflicted with another channel. Stop the current recording or wait until the recording is finished.
- Check that the product is switched on when recording starts.

14. Cannot operate TSR (Time Shifted Recording). (PVR only)

- TSR may not be available during recording. Wait until recording is finished.
- Delete unnecessary programmes and make space for new recording.

15. Cannot playback. (PVR only)

- To playback the recorded file of a scrambled channel, use the Smartcard. In case it has been a long time since you last recorded, this may not work. Contact the product distributor.
- The signal during recording may be weak or the hard disk too full.

16. Cannot change channels while recording. (PVR only)

- Certain channels may not be changed due to restriction of the tuner or connection type.

Error Message

Error message	Possible causes	What to do
No or bad signal	The cable is not connected.	Make sure the cable is connected correctly.
	The cable may be damaged or defective.	Exchange the cable.
	The channel is not broadcasting.	Exchange the cable.
The channel is scrambled or not available.	The channel has a signal, but no audio or video.	Confirm if the channel is currently on air.
	The channel has been deleted by the broadcasting company.	Check if the channel is currently on air
	The channel is for data broadcasting.	Remove the channel from the channel list and check for new transponder details.
The audio is not available.	The channel has a video signal, but no audio.	Press the audio button to confirm that the channel has audio options.
No access	No access	Make sure you are subscribed to the channel.
	No authorization.	If the product has been turned off for a long time (standby or power off), please wait for authorization. It may take up to 60 minutes.
No card inserted.	Smartcard is not inserted.	Insert Smartcard.
Incorrect card	Wrong Smartcard is inserted.	Insert the correct Smartcard.
	Smartcard is not inserted correctly.	Remove the Smartcard and reinsert it.
	Smartcard is damaged.	Contact your Smartcard retailer or channel broadcaster for a Smartcard replacement.

Appendix

Glossary

CVBS (Composite Video Baseband Signal)

A technology for transmitting video signals via a cable. Mixes luminance (brightness) and the chrominance (colour) signals together.

DiSEqC (Digital Satellite Equipment Control)

A DiSEqC compatible receiver relies on a switching box which detects the 22kHz tone pulsing rapidly on and off. In this way, a specially designed receiver can control numerous LNBs through a DiSEqC switching box.

Dolby Digital

An encoding system that digitally compresses up to 5.1 discrete channels of audio (left front, centre, right front, left surround, right surround) into a single Bitstream. A low frequency effect (LFE) channel is included providing the sound needed for special effects.

DVB (Digital Video Broadcasting)

Set of standards that define digital broadcasts using satellite, cable or terrestrial systems.

EPG (Electronic Programme Guide)

An electronic equivalent to a printed television listings magazine; it is an application used with digital set-top boxes and digital television sets to list current and scheduled programs that are or will be available on each channel, including a short summary or commentary for each program. The information supplied in the EPG is sent and updated by the channel broadcaster.

FEC (Forward Error Correction)

A technique for error control of data transmission.

Frequency

The property of a signal measured in cycles per second (=Hz).

FTA (Free- To-Air)

An unscrambled broadcaster allowing customers to view channels or services without paying any subscription.

HDD (Hard Disk Drive)

The primary computer storage medium, which is made of one or more aluminum or glass platters, coated with a ferromagnetic material.

Hi-Fi (High Fidelity)

The characteristics of audio devices that can play back all the audio frequencies a person can detect, which is the range of 16Hz-20KHz. Sometimes it is used to indicate good quality of audio devices such as stereo tape recorders.

LNB (Low Noise Block)

A device that is mounted on an arm facing your satellite dish, focusing on satellite signals. A LNB converts signals received from satellite to a lower frequency and sends them to a satellite receiver via coaxial cable.

NVOD (Near Video On Demand)

A technology that allows customers to view the start of popular programmes or films within a short period from the time they make their selection. This is possible as the broadcaster sends multiple copies with staggered start times.

OSD (On Screen Display)

OSD displays the basic information necessary for the users to configure monitor or TV settings. OSD information may include brightness, contrast, tuning, RGB adjustment, and screen size and position.

OTA (Over the Air)

A standard for the transmission of software for equipment, through a broadcast system. Manufacturers reserve the right for deciding the release of the software for their products.

PID (Packet Identifier)

A set of numbers identifying stream packets contained within a single data stream.

PIP (Picture In Picture)

A function that allows you to display two different TV channels (or TV inputs) on a single screen.

Polarisation

The direction of the electrical and magnetic fields of a signal. Satellites use both vertical and horizontal polarisation. Means that a frequency can be used twice.

PVR (Personal Video Recorder)

Video recorder that can record and playback programmes directly using the embedded hard disk drive(s).

QPSK (Quaternary Phase Shift Keying)

Digital modulation technique in which the carrier phase can have one of four possible values.

RF (Radio Frequency)

Television signals are modulated onto RF signals and are then demodulated by your television's or STB's tuner.

RF Modulator

Enables you to output the receiver's digital signals to a TV's RF (Aerial) input, allowing you to connect the receiver to a TV set without a SCART connection.

RGB (Red – Green – Blue)

A technology for transmitting video signals via a cable. RGB is a system to represent red, green, and blue colours on a TV or monitor display. Red, green, and blue can be combined in various proportions to obtain any colour.

RS-232C

A connection to allow you to connect to a PC to update receiver's software.

SCART

A 21-pin connector standard to connect two pieces of Audio-Visual equipment such as a TV and a VCR. Each device will have a 21-pin female connection; a cable with male connection at both ends is used for connecting the devices.

Smartcard

A credit card sized card that contains updateable chip memory. It is used for accessing Pay TV (encrypted) channel or services when inserted into an appropriate receiver.

S/PDIF (Sony/Philips Digital Interface format)

A standard format for the transfer of digital audio signals. It allows the transfer of digital audio between two devices without any conversion to and from analogue, which could degrade the signal quality.

S-Video (Super-Video)

Sometimes referred to as Y/C video; a technology for transmitting video signals via a cable. It is a video signal transmission in which the luminance (brightness) and the chrominance (colour) signals are transmitted separately to achieve superior picture clarity.

Transponder

A satellite is divided up in parts called transponders. A transponder is one distribution section of the satellite. Each transponder can be used for distribution of several channels or services.

Trick-Play

Pause, Fast Forward/Fast Rewind, Slow Motion, Instant Replay, Commercial Skip, Repeat A-B.

TSR (Time Shifted Recording)

A function that records the present programme temporarily to support trick-play.

Appendix

Remote Control Code List

1. Using the Universal Remote Control

1. Select the mode(PVR, TV, DVD, AUDIO) you want to set by pressing the corresponding button on the remote control. The button will blink once.
2. Keep pressing the button for 3 seconds until the button lights on.
3. Enter the 3-digit code. Every time a number is entered, the button will blink. When the third digit is entered, the button will blink twice.
4. If a valid 3-digit code is entered, the product will power off.
5. Press the **OK** button and the mode button will blink three times. The setup is complete.
6. If the product does not power off, repeat the instruction from 3 to 5.


Note:

- When no code is entered for one minute the universal setting mode will switch to normal mode.
- Try several setting codes and select the code that has the most functions.

Remote Control Function List

The keys on the remote control function as in the list below.

Note: Some keys may not function depending on the product.




Button	TV	DVD	AUDIO
STANDBY	POWER	POWER	POWER
	MUTE	MUTE	MUTE
PVR			
TV			
DVD			
AUDIO			
1	DIGIT 1	1	INPUT 1
2	DIGIT 2	2	INPUT 2
3	DIGIT 3	3	INPUT 3
4	DIGIT 4	4	INPUT 4
5	DIGIT 5	5	INPUT 5
6	DIGIT 6	6	INPUT 6
7	DIGIT 7	7	INPUT 7
8	DIGIT 8	8	INPUT 8
9	DIGIT 9	9	INPUT 9
0	DIGIT 0, 11	0	INPUT 0
TV Portal			
MENU	MENU	MENU	MENU/MODE

Appendix

English

Button	TV	DVD	AUDIO
▶	TEXT EXPAND	PLAY	PLAY
	TEXT HOLD	PAUSE	PAUSE
■	PIP INPUT	STOP	STOP
●	PIP MOVE	RECORD, OPEN CLOSE	RECORD
◀◀	PIP OFF	REWIND, SEARCH REVERSE; SCAN	DVD SEARCH REW, CD SEARCH REW, REW
▶▶	PIP	FAST FORWARD, SEARCH FORWARD; SCAN	FAST FORWARD, DVD SEARCH REW, CD SEARCH REW, REW
◀◀	TEXT MIX	SKIP -, TRACK -, CHAPTER -	DVD SKIP -, CD SKIP -, SKIP -
▶▶	TEXT OFF, TV	SKIP, TRACK +, CHAPTER +	DVD SKIP+, CD SKIP +, SKIP +
RED	RED	RED	RED
GREEN	GREEN	GREEN	GREEN
YELLOW	YELLOW	YELLOW	YELLOW
BLUE	BLUE	PROGRAMME	BLUE
MEDIA			
GUIDE	GUIDE	GUIDE	DSP MODE
OK	OK	OK	OK
UP	UP	UP	UP
LEFT	LEFT	LEFT	LEFT
RIGHT	RIGHT	RIGHT	RIGHT
DOWN	DOWN	DOWN	DOWN
EXIT	EXIT	EXIT, RETIRN	EXIT
BACK	LAST, RECALL; PP; LAST CHANNEL	CLEAR	REPEAT
VOL+	VOL+	VOL+	VOL+
VOL-	VOL-	VOL-	VOL-
i	INFO, OSD; DISPLAY	INFO, OSD; DISPLAY	INFO
LIST		LIST	
P+	P+	P+	P+
P-	P-	P-	P-
TEXT	TEXT	PVR MENU	
🔊?		AUDIO, LANGUAGE	SURROUND
SUB	SUBTITLE, LANGUAGE; CC	SUBTITLE	

Appendix

Button	TV	DVD	AUDIO
TV/RADIO	TV/DTV ATV/DTV; D/A; DTV/TV; DTV; DIGITAL	HDD, DVD/HDD	BAND
OPT+			RANDOM
	TEXT SUBPAGE TEXT TIME		RANDOM
	TEXT INDEX	TITLE	
	TEXT POSITION TEXT CANCEL; TEXT UPDATE	SLOW; STEP	
SOURCE	SOURCE, AV, 55INPUT; TV/AV	SOURCE, TV/DVD, TV/DISK	SOURCE, FUNCTION
SLEEP	SLEEP	SLEEP	SLEEP
V-FORMAT	TEXT SIZE; TEXT EXPAND; FTB		
WIDE	WIDE, FORMAT, 16:9, ASPECT; ZOOM	ZOOM	

2. TV Code List

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Agashi	043, 034, 035
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Akito	006, 044
Akura	006, 144, 134, 204, 043, 036, 002, 026, 045, 071, 298, 327, 376, 451
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Alba	006, 144, 134, 204, 087, 064, 036, 005, 108, 473, 455, 447, 388, 099, 084, 077, 072, 065, 059, 034, 023, 002
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Samsung	032, 042, 017, 022, 069, 099, 152, 166, 182, 197, 199, 219, 080
Sansui	059, 013, 070
Sanyo	056, 062
Scan	061, 087
ScanMagic	066, 164
ScanSonic	162
Schaub Lorenz	073, 075, 100, 104, 156
Schneider	038, 082, 052, 077, 061, 062, 075, 090, 110, 122, 214
Schoentech	062
Scientific Labs	072
Scott	057, 097, 113, 125, 181
Seeltech	109, 156
SEG	055, 062, 091, 140, 185, 215
Shanghai	057
Sharp	058, 062, 090, 127
Sherwood	067, 064
Shinco	064
Siemssen	123
Sigmatek	109, 200
Siltex	109
Silva	075, 093
Silva Schneider	067, 082, 090, 093
SilverCrest	014, 015, 105
Sinudyne	116
Sistemas	057
Skantic	038, 062

SKY	013
Skymaster	066, 072
Skyworth	093
Sliding	100
SM Electronic	066, 072, 105
Smart	061, 062
Sogo	136, 203, 216
Sontech	131
Sony	036, 089, 096, 098, 139, 142, 150, 171, 177, 184, 188, 190, 201, 202
Sound Color	113
Soundmaster	072
Soundwave	062, 140
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Strato	105, 123
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Sunkai	073, 087
Sunstar	001
Sunstech	082, 148, 149
Suntronic	001
Sunwood	075, 093
Supervision	072, 105
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SVA	057
Swisstec	206, 218
Sylvania	058, 207
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Synn	072
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Tamashi	125
Tandberg	062, 162, 185
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Tchibo	067

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Teac	067, 072, 061, 064, 071, 110	Waltham	062, 140
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Technica	162	Wellington	062
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Technika	073, 082, 100, 140, 162, 206, 208, 218, 221	Wharfedale	077, 062, 070, 100, 124, 172
Technisson	100	Wilson	082, 113
Technosonic	100	Windsor	062
Techwood	062, 140, 185	Windy Sam	042
Telefunken	039	Wintel	101
Teletech	072, 062	Woxter	104, 109
Tensai	073	Xbox	163, 194
Tevion	093, 097, 110, 123, 131, 164, 181, 215	Xenius	077
Textorm	136	Xomax	198
Theta Digital	041	Xoro	108, 226
Thomson	039, 116, 160, 168	Yakumo	094
Time	013	Yamada	091, 094, 104, 106, 126, 135, 136
Tokai	077, 055, 075, 093, 113	Yamaha	032, 038, 052, 079
Tom-Tec	076, 148	Yamakawa	055, 091, 215
Top Suxess	109	Yukai	066, 164
Toshiba	033, 059, 132, 138, 153, 154, 169, 187	Zenith	033, 043
TRANS-continents	082, 081, 091, 113, 117	TV/DVD Combo	
Tredex	086	Acoustic Solutions	193, 208
Trevi	082	Airis	216
TSM	109	Akai	212
TVE	062	Alba	216
Umax	104	Audiosonic	216
UMC	206, 218, 221	Bush	062, 216, 217
United	059, 066, 058, 062, 075, 081, 100, 105, 113, 120, 131, 156, 172, 198	cello	198, 205
Universum	067, 043, 077, 062, 090, 110, 140	Dantax	122
Vecatech	136	Denver	128, 216
Venturer	077, 169, 193, 208	Digitrex	217
Vestel	062, 140, 185	Gold	198
Vieta	061	Hikona	124
Voxson	066, 082	Logic	222
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UMC	221
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Ferguson	059
Matsui	059

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Accent	009
Adventura	001
Adyson	009
Aiwa	003, 028, 001, 029, 002, 068, 102
Akai	028, 029, 023, 012, 020
Akiba	009
Akura	009
Alba	010, 021, 028, 001, 009, 029, 023
Allorgan	020
Allstar	010
America Action	021
Amstrad	021, 001, 009
Anam	021, 003, 019, 020
Anam National	019
Anitech	009
Ansonic	001
Aristona	010
ASA	010, 003
Asha	020
Asuka	010, 003, 001, 009
Audiolab	010
Audiosonic	021
Audiovox	003
AVP	001, 029
Awa	003, 024, 005
Baird	021, 001, 011, 012
Basic Line	021, 009, 011
Beaumarck	020
Beko	011

Bell & Howell	011
Bestar	021
Black Diamond	051
Black Panther	021
Blaupunkt	010, 019
Blue Sky	021, 003, 028, 051, 009, 029, 031, 068, 102
Bondstec	009
Brandt	024, 025
Brinkmann	028
Bush	010, 021, 028, 001, 051, 009, 029, 023, 068
Calix	003
Carena	010
Carrefour	006
Carver	010
Casio	001
Cathay	021
CCE	021, 009
Centrum	044
CGE	001
Cimline	009
Cineral	021
Citizen	021, 003
Clatronic	001, 009
Colt	009
Combitech	029
Condor	021
Craig	003, 009, 020
Crown	021, 003, 009, 031

Cybernex	020
Cyrus	010
Daewoo	021, 050, 051, 029, 006
Dansai	021, 009
Dantax	029, 068
Daytron	021
De Graaf	010, 011, 007, 004
Decca	010, 001, 029, 008
Deitron	021
Denko	009
Denon	004
Diamant	003
Dual	010, 021, 028, 001
Dumont	010, 001, 011
Durabrand	051, 044
Elbe	021
Elcatech	009
Electroponic	003
Elin	020
Elsay	009
Elta	021, 009
Emerex	002
Emerson	021, 050, 003, 001, 009, 006, 005
ESC	021, 020
Ferguson	021, 028, 001, 024, 025, 068
Fidelity	001, 009, 029, 030, 020
Finlandia	010, 003, 001, 011, 007, 005, 004, 012, 019
Finlux	010, 001, 011, 004
Firstline	021, 003, 028, 009, 006, 005, 004, 031, 102
Fisher	011
Flint	028
Frontech	009
Fujitsu	001
Funai	001, 044
Galaxi	001
Galaxis	021
Garrard	001
GE	007, 020

GEC	010
General Technic	028
Genexxa	011
Go Video	030, 102
GoldHand	009
GoldStar	003, 001, 031, 102
Goodmans	010, 021, 050, 003, 028, 001, 051, 009, 029, 020, 068
GPX	003
Gradiente	001
Graetz	011, 020
Granada	010, 003, 001, 011, 007, 004, 019, 020
Grandin	021, 003, 001, 009, 068
Grundig	010, 028, 009, 024, 029, 019, 068
Hanimex	029
Hanseatic	010, 003
Harley Davidson	001
Harwood	009
HCM	009
Hinari	021, 009, 029, 020
Hisawa	029
Hischito	006
Hitachi	010, 001, 004, 020, 044
Hoeher	021, 051
Hornophon	010
Hughes Network Systems	004
Hypson	021, 003, 001, 009, 029, 031
Imperial	001
Ingersol	020
Inno Hit	009
Interbuy	003, 009
Interfunk	010, 011
Internal	021, 050
International	021, 003, 051
Intervision	021, 003, 028, 001
Irradio	010, 003, 009, 102
ITT	011, 012, 020
ITV	021, 003

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JMB	028, 029, 068
Joyce	001
JVC	008
Kaisui	009
Karcher	010, 021, 051
KEC	021, 003
Kendo	021, 003, 028, 051, 009, 023, 012
Kenwood	008
KLH	009
Kneissel	021, 003, 028, 029
Kodak	003
Korpel	009
Kyoto	009
Lenco	021
Leyco	009
LG	021, 003, 001, 031, 102
Lifetec	028
Lloyd's	001
Loewe	010, 144, 003
Logik	009, 012, 020
Lumatron	044, 102
Lunatron	102
Lux May	009
Luxor	009, 011, 007, 005, 023, 012
LXI	003
M Electronic	003, 001
Magnasonic	021, 044
Magnavox	010, 001
Magnin	020
Magnum	051
Manesth	010, 009, 006
Marantz	010
Mark	021, 001
Mascom	051
Mastec	051
Master's	021
Matsui	003, 028, 029, 020, 068
Mediator	010
Medion	028, 051, 029
Memorex	003, 028, 001, 011, 007, 020
Memphis	009
Metronic	010
Metz	010, 144, 003, 019, 084
MGA	005, 020
MGN Technology	020
Micormay	028
Migros	001
Minolta	004
Mitsubishi	010, 051, 008, 007, 005, 031
Motorola	007
MTC	001, 020
Multitec	003
Multitech	001, 009
Murphy	001
Myryad	010
NAD	011
Naiko	028, 051
National	019
NEC	003, 011, 008
Neckermann	010
Nesco	001, 009
Neufunk	102
Nikkai	021, 009
Nikko	003
Noblex	020
Nokia	010, 021, 011, 007, 004, 023, 012, 020
Nordmende	051, 024, 008, 025
Oceanic	010, 001, 024, 011, 007, 012
Okano	021, 028, 009, 023
Olympus	019
Onimax	051
Optimus	007, 030, 044
Orbit	009
Orion	028, 029, 068
Orson	001
Osaki	003, 001, 009

Osume	009	Royal	009
Otto Versand	010	Saba	021, 024, 025
Pace	029	Saisho	028
Pacific	028, 001, 051, 068	Salora	011, 005, 012
Palladium	003, 028, 009	Samsung	006, 030, 020, 068
Palsonic	001, 009	Sanky	007
Panasonic	144, 019, 084	Sansei	007
Pathe Cinema	005	Sansui	001, 009, 008, 012
Penney	003, 004, 020	Sanyo	011, 008, 007, 020
Pentax	004	Saville	021, 029, 020
Perdio	001	SBR	010
Philco	009	ScanSonic	020
Philips	010, 044	Schaub Lorenz	028, 001, 011, 023, 012
Phoenix	021	Schneider	010, 021, 003, 028, 001, 051, 009, 029, 004, 020, 102
Phonola	010	Scott	005, 044
Pilot	003	Sears	003, 001, 011, 004
Pioneer	010, 008, 004	Seaway	021
Portland	021, 050	SEG	010, 021, 050, 051, 009, 020, 044
Prinz	001	SEI	010
Profitronic	010, 020	Sei-Sinudyne	010
Proline	021, 001, 051, 024, 025	Seleco	003
Proscopro	021	Semp	006
Prosonic	021	Sentra	009
Protech	010, 009	Setron	009
ProVision	021	Sharp	007, 040, 102
Pye	010	Shintom	009, 011
Quasar	021	Shivaki	003
Quelle	010	Shogun	020
Radialva	010, 003, 009, 007	Siemens	010, 003, 024, 011
Radiola	010	Siera	010
Radionette	003, 102	Silva	003
RadioShack	003, 001	Silva Schneider	102
Radix	003	Silver	021
Randex	003	SilverCrest	051
RCA	024, 007, 004, 020	Singer	009, 006
Realistic	003, 001, 011, 007	Sinudyne	010, 029
Reoc	028	Smaragd	028
RFT	009	Sonneclair	009
Roadstar	010, 021, 003, 009, 020, 068		

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Sontec	021, 003
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Ssangyong	009
Standard	021
Stern	021
Sunkai	021, 028
Sunstar	011
Suntronic	011
Sunwood	009
Supra	003
Sylvania	010, 001, 005
Symphonic	001, 044
Tandberg	021
Tandy	001, 011
Tashiko	010, 003, 001, 007, 020
Tatung	010, 028, 001, 029, 007, 005
Tchibo	028
TCM	028
Teac	003, 001, 051
Tec	009
Tech Line	009
Technics	010, 019
TechniSat	028
Technosonic	029
Teknika	003, 001
Telefunken	021, 024, 025
Telerent	019
Teletech	021, 001, 009
Tenosal	009
Tensai	021, 003, 001, 009
Tevion	028, 051
Texet	021
Thomas	001
Thomson	021, 024, 008, 025
Thorn	003, 011
TMK	020
Tokai	003, 009, 011

Topline	028
Toshiba	010, 029, 006, 005, 030, 068
Totevision	003, 020
Towada	009
Tradex	010
Uher	020
Ultravox	021
Unitech	020
United	028, 068
Universum	010, 003, 028, 001, 011, 012, 020, 102
Vector	006
Victor	008
Video Concepts	006
Video Technic	001
Videomagic	003
Videosonic	020
Villain	001
Wards	010, 001, 009, 006, 007, 004, 020
Watson	010, 051, 029
Weltblick	003
Wharfedale	044
White Westinghouse	021, 009
World	028
XR-1000	001, 009
Yamishi	021, 009
Yokan	009
Yoko	003, 009, 020
Zenith	050, 001
ZX	028, 029
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Aiwa	001, 029, 068, 102
Alba	029
Amstrad	001
Beko	011
Bestar	021
Blue Sky	021, 029, 068
Bush	029, 068

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Colt	009	Radiola	010
Daewoo	021, 050	RCA	007, 020
Dantax	029, 068	Saba	024
Emerson	021, 050	Samsung	030, 020, 068
Ferguson	021, 001, 025, 068	Sansui	001
Fidelity	001	Sanyo	020
Firstline	021	Saville	029
Funai	001	Schneider	010, 001
GE	007, 020	Sears	003, 001
GoldStar	003, 031	SEG	050
Goodmans	021, 050, 029, 068	Sharp	007
Grandin	021, 068	Siemens	010
Grundig	010, 029, 068	Sinudyne	029
Hanimex	029	Sony	001, 002, 112
Harley Davidson	001	Sylvania	010
Hinari	029	Symphonic	001
Hitachi	001	Tatung	029
Hypson	003	Teac	001
Internal	021, 050	Technics	010
JBL	021	Technosonic	029
JMB	029	Telefunken	021
Kneissel	021, 029	Thomas	001
LG	003, 031	Thomson	021, 025
Lloyd's	001	Toshiba	029, 030, 068
Magnasonic	021, 044	United	068
Magnavox	010, 001	White Westinghouse	021
Magnin	020	Zenith	011
Matsui	029, 068		
Medion	029		
Memorex	003		
MGA	020		
Mitsubishi	010, 007		
Orion	029, 068		
Pace	029		
Pacific	068		
Penney	003, 020		
Philips	010		

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5. Audio & AUX Code List

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Acoustic Solutions	078, 082, 084, 094
Cambridge Audio	106
Curtis Mathes	014
Denon	012
Durabrand	089, 090
Goodmans	093
Hitachi	089
JBL	042
Logitech	074
Magnat	042
Magnum	094
Mustek	093
Optimus	014, 029
Pacific	094
Pioneer	014, 029
RCA	014
Sven	090
Tevion	094
Trice	090
upXus	078
Vieta	042
Yamaha	016, 030
Accessory	
Apple	038
Sony	008
Yamaha	121, 122
Receiver	
Acoustic Solutions	087
AEG	071, 072
AFK	071
Aiwa	005, 073
Akai	004, 021, 072, 087
Alba	087, 088
All-Tel	072
Amstrad	024, 072
Anam	021
Arcam	044
ASCOMTEC	071
Audiolab	043
Audiosonic	071
Audiotronic	043
Bang & Olufsen	028
Basic Line	088
Belson	071
Binatone	071
Blue Sky	072, 087
Bose	046, 099
Bush	027
Cambridge Audio	080, 101
Cat	071
CCE	065
Centrum	045, 071
Clatronic	027, 071
Cosmotron	027
Daewoo	076
Dantax	018, 072
Denon	067, 025, 036, 075
Denver	071
DiK	027
Dual	045, 072
eBench	024, 027
Elta	024, 027, 072
EuroLine	098
Fine Arts	043
Firstline	027
Garrard	013, 018
Genexxa	010
Global Sphere	098
Goodmans	021, 024, 027, 071, 072
Grundig	043, 013, 027, 035, 087
Grunkel	024, 072
Hanseatic	072
Harman/Kardon	043, 056, 003, 011, 057, 060
Harwood	024

HCM	072
HE	071
Hitachi	088
Hitech	024
Hiteker	071
Home Tech Industries	071
Hyundai	087
Inkel	020
Intersound	024
JBL	056, 057
JVC	001, 019, 068
Kenwood	033, 061, 091, 010
Kioto	027
Kompernass	027
KXD	071
LG	054, 086, 125
Lifetec	027
LXI	024
Magnat	071
Magnavox	043, 035
Marantz	043, 049, 031, 035, 053
Matsui	024, 027
MBO	065
Medion	027, 087
MEI	072
Metz	088
Micromega	043
Microstar	027
MTLogic	087
Musicmagic	035
Mustek	065
Mx Onda	024, 027
Myryad	043
NAD	015, 021
Nexius	072
Nikkai	071
Nikkei	024
Norcent	071
NTDE Geniesom	024
Onkyo	006, 063, 114
Optimus	032, 010, 024
Orient Power	024
Orion	018
Palladium	027, 045, 054, 072, 086
Panasonic	109, 085, 058, 059, 062, 110, 111, 113, 128
Paramount Pictures	045
PCCW	128
Philips	043, 049, 031, 035, 048, 053, 117
Phonotrend	020
Pioneer	052, 032, 010, 039, 081, 097
PJ	071
Polk Audio	053
Prima Electronic	027
Proline	027, 072
ProVision	071
QONIX	072, 087
Radionette	054, 100
Recco	027
Redstar	071
Revox	007, 010, 035
Roadstar	027
Rotel	026
Samsung	013, 055, 119, 123, 083
Sansui	021, 035, 098
Sanyo	024
Schneider	003, 024, 045, 072
Scott	071
SEG	088
Sharp	010, 022, 070, 100
Sherwood	020, 022
Siemens	021
Silva Schneider	027, 072, 086
SilverCrest	087
Sony	040, 034, 047, 103, 107, 037, 066, 077, 079, 096, 108, 116, 118, 124
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Stereophonics	032
Sumida	024

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TAG McLaren	043
Tandberg	088
Targa	054
TCM	027
Teac	018, 021
Technics	109, 085, 058, 059, 011, 110
Techwood	088
Tedalex	098
Tevion	071
Thorens	043
Thorn	024
Tokai	072
Toshiba	092

United	072, 098
Universum	013, 021, 024, 027, 045, 072, 076, 095
Venturer	027, 072
Vestel	088
Victor	001
Waitec	065
Watson	027
Wellfund	024
Welltech	027
Wharfedale	072
Xenius	072
Yamaha	009, 002, 010, 017, 023, 041, 051, 064, 069, 112, 115, 120
Yukai	065
Zenith	024

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Appendix

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